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ELEMENTS

OF THE

PHILOSOPHY

OF THE

HUMAN MIND.

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ADVERTISEMENT.

IN various parts of the following Work, references are made to ſubſequent ſpeculations which are not contained in it. Theſe ſpeculations it is my intention to reſume at ſome future period; but when I conſider the extent of my ſubject, and the many accidents which may divert me from the proſecution of it, I cannot venture ſo far, as to announce, in the title-page of this volume, any promiſe of a future publication.

Some additional chapters are ſtill wanting, to complete the Analyſis of the Intellectual Powers. After finiſhing this, the courſe of my inquiries would lead me to treat, in the ſecond place, of Man conſidered as an active and moral being; and, thirdly, of Man conſidered as the member of a political ſociety.

COLLEGE OF EDINBURGH,
March 13, 1792.

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ELEMENTS

OF THE

PHILOSOPHY

OF THE

HUMAN MIND.

INTRODUCTION.

PART FIRST.

Of the Nature and Object of the Philoſophy of the Human Mind.

THE prejudice which is commonly entertained againſt metaphyſical ſpeculations ſeems to ariſe chiefly from two cauſes: Firſt, from an apprehenſion that the ſubjects about which they are employed, are placed beyond the reach of the human faculties; and, Secondly, from a belief that theſe ſubjects have no relation to the buſineſs of life.

The frivolous and abſurd diſcuſſions which abound in the writings of moſt metaphyſical authors, afford but too many arguments in juſtification of theſe opinions; and if ſuch diſcuſſions were to be admitted as a fair ſpecimen of what the human mind is able to accompliſh in this department of ſcience, the contempt, into which it has fallen of late, might

with juſtice be regarded, as no inconſiderable evidence of the progreſs, which true philoſophy has made in the preſent age. Among the various ſubjects of inquiry, however, which, in conſequence of the vague uſe of language, are comprehended under the general title of metaphyſics, there are ſome which are eſſentially diſtinguiſhed from the reſt, both by the degree of evidence which accompanies their principles, and by the relation which they bear to the uſeful ſciences and arts: and it has unfortunately happened, that theſe have ſhared in that general diſcredit, into which the other branches of metaphyſics have juſtly fallen. To this circumſtance is probably to be aſcribed, the little progreſs which has hitherto been made in the PHILOSOPHY OF THE HUMAN MIND; a ſcience ſo intereſting in its nature, and ſo important in its applications, that it could ſcarcely have failed, in theſe inquiſitive and enlightened times, to have excited a very general attention, if it had not accidentally been claſſed, in the public opinion with the vain and unprofitable diſquiſitions of the ſchool-men.

In order to obviate theſe miſapprehenſions with reſpect to the ſubject of the following work, I have thought it proper, in this preliminary chapter, firſt, to explain the nature of the truths which I propoſe to inveſtigate; and, ſecondly, to point out ſome of the more important applications of which they are ſuſceptible. In ſtating theſe preliminary obſervation, I may perhaps appear to ſome to be minute and tedious; but this fault, I am confident, will be readily pardoned by thoſe, who have ſtudied with care the principles of that ſcience of which I am to treat; and who are anxious to remove the prejudices which have, in a great meaſure, excluded it from the modern ſyſtems of education. In the progreſs of my work, I flatter myſelf that I ſhall not often have occaſion to ſolicit the indulgence of my readers, for an unneceſſary diffuſeneſs.

The notions we annex to the words, matter, and mind, as is well remarked by Dr. Reid,* are merely relative. If I am aſked what I mean by matter? I can only explain myſelf by ſaying, it is that which is extended, figured, coloured, moveable, hard or ſoft, rough or ſmooth, hot or cold;—that is, I can define it no other way, than by enumerating its ſenſible qualities. It is not matter, or body, which I perceive by my ſenſes; but only extenſion, figure, colour, and certain other qualities, which the conſtitution of my nature leads me to refer to ſomething, which is extended, figured, and coloured. The caſe is preciſely ſimilar with reſpect to mind. We are not immediately conſcious of its exiſtence, but we are conſcious of ſenſation, thought, and volition; operations, which imply the exiſtence of ſomething which feels, thinks, and wills. Every man too is impreſſed with an irreſiſtible conviction, that all theſe ſenſations thoughts and volitions, belong to one and the ſame being; to that being, which he calls *himſelf;* a being, which he is led, by the conſtitution of his nature, to conſider as ſomething diſtinct from his body, and as not liable to be impaired by the loſs or mutilation of any of his organs.

From theſe conſiderations, it appears, that we have the ſame evidence for the exiſtence of mind, that we have for the exiſtence of body; nay, if there be any difference between the two caſes, that we have ſtronger evidence for it; inaſmuch as the one is ſuggeſted to us, by the ſubjects of our own conſciouſneſs, and the other merely by the objects of our perceptions: and in this light, undoubtedly, the fact would appear to every perſon, were it not, that, from our earlieſt years, the attention is engroſſed with the qualities and laws of matter, an acquaintance with which is abſolutely neceſſary for the preſervation of our animal exiſtence. Hence it is,

* Eſſays on the Active Powers of Man.

that theſe phenomena occupy our thoughts more than thoſe of mind; that we are perpetually tempted to explain the latter by the analogy of the former, and even to endeavour to refer them to the ſame general laws; and that we acquire habits of inattention to the ſubjects of our conſciouſneſs, too ſtrong to be afterwards ſurmounted, without the moſt perſevering induſtry.

If the foregoing obſervations be well founded, they eſtabliſh the diſtinction between mind and matter, without any long proceſs of metaphyſical reaſoning:* for if our notions of both are merely relative; if we know the one, only by ſuch ſenſible qualities as extenſion, figure, and ſolidity; and the other, by ſuch operations as ſenſation, thought, and volition; we are certainly entitled to ſay, that in ſo far as body and mind are known to us, they appear to be ſubſtances of different natures. Perhaps, indeed, it would be more accurate to ſay of the ſcheme of materialiſm, that it is inconceivable, than that it is falſe; for let us conſider only what it implies: Is it not the object of thoſe who propoſe it, to explain the nature of that ſubſtance which feels, thinks, and wills? But when they attempt to do ſo, by ſaying that it is material, they ſurely forget, that body, as well as mind, is known to us by its qualities and attributes alone, and that we are as ignorant of the nature of the former, as of that of the latter.†

* See Note [A], at the end of the volume.

† Some metaphyſicians, who appear to admit the truth of the foregoing reaſoning, have farther urged that for any thing we can prove to the contrary, it is poſſible that the unknown ſubſtance which has the qualities of extenſion, figure, and colour, may be the ſame with the unknown ſubſtance which has the attributes of feeling, thinking, and willing. But beſides that this is only an hypotheſis, which amounts to nothing more than a poſſibility; even if it were true, it would no more be proper to ſay of mind, that it is material, than to ſay of body, that it is ſpiritual.

As all our knowledge of the material world is derived from the information of our ſenſes, natural philoſophers have, in modern times, wiſely abandoned to metaphyſicians all ſpeculations concerning the nature of that ſubſtance of which it is compoſed; concerning the poſſibility or impoſſibility of its being created; concerning the efficient cauſes of the changes which take place in it; and even concerning the reality of its exiſtence, independent of that of percipient being: and have confined themſelves to the humbler province of obſerving the phenomena it exhibits, and of aſcertaining their general laws. By purſuing this plan ſteadily, they have, in the courſe of the two laſt centuries, formed a body of ſcience, which not only does honour to the human underſtanding, but has had a moſt important influence on the practical arts of life. This experimental philoſophy, no one now is in danger of confounding with the metaphyſical ſpeculations already mentioned. Of the importance of theſe, as a ſeperate branch of ſtudy, it is poſſible that ſome may think more favourably than others; but they are obviouſly different in their nature, from the inveſtigations of phyſics; and it is of the utmoſt conſequence to the evidence of this laſt ſcience, that its principles ſhould not be blended with thoſe of the former.

A ſimilar diſtinction takes place among the queſtions which may be ſtated relative to the human mind.—Whether it be extended or unextended; whether or not it has any relation to place; and (if it has) whether it reſides in the brain, or be ſpread over the body, by diffuſion; are queſtions perfectly analogous to thoſe which metaphyſicians have ſtarted on the ſubject of matter. It is unneceſſary to inquire at preſent whether or not they admit of anſwer. It is ſufficient for my purpoſe to remark, that they are as widely and obviouſly different from the view which I propoſe to take, of the human mind in the following work, as the reveries of Berkeley con-

cerning the non-existence of the material world, are from the conclusions of Newton and his followers.—It is farther evident, that the metaphysical opinions, which we may happen to have formed concerning the nature either of body or of mind, and the efficient causes by which their phenomena are produced, have no necessary connexion with our enquiries concerning the laws, according to which these phenomena take place.—Whether (for example) the cause of gravitation be material or immaterial, is a point about which two Newtonians may differ, while they agree perfectly in their physical opinions. It is sufficient if both admit the general fact, that bodies tend to approach each other, with a force varying with their mutual distance, according to a certain law. In like manner in the study of the human mind, the conclusions to which we are led by a careful examination of the phenomena it exhibits, have no necessary connexion with our opinions concerning its nature and essence.—That when two subjects of thought, for instance, have been repeatedly presented to the mind in conjunction, the one has a tendency to suggest the other, is a fact of which I can no more doubt, than of any thing for which I have the evidence of my senses; and it is plainly a fact totally unconnected with any hypothesis concerning the nature of the soul, and which will be as readily admitted by the materialist as by the Berkeleian.

Notwithstanding, however, the reality and importance of this distinction, it has not hitherto been sufficiently attended to, by the philosophers who have treated of the human mind. Dr. Reid is perhaps the only one who has perceived it clearly, or at least who has kept it steadily in view, in all his inquiries. In the writings, indeed, of several other modern metaphysicians, we meet with a variety of important and well-ascertained facts; but in general these facts are blended with speculations upon sub-

jects which are placed beyond the reach of the human faculties.——It is this mixture of fact, and of hypotheſis, which has brought the philoſophy of mind into ſome degree of diſcredit; nor will ever its real value be generally acknowledged, till the diſtinction I have endeavoured to illuſtrate, be underſtood, and attended to, by thoſe who ſpeculate on the ſubject. By confining their attention to the ſenſible qualities of body, and to the ſenſible phenomena it exhibits, we know what diſcoveries natural philoſophers have made; and if the labours of metaphyſicians ſhall ever be rewarded with ſimilar ſucceſs, it can only be, by attentive and patient reflection on the ſubjects of their own conſciouſneſs.

I cannot help taking this opportunity of remarking, on the other hand, that if phyſical inquirers ſhould think of again employing themſelves in ſpeculations about the nature of matter, inſtead of attempting to aſcertain its ſenſible properties and laws (and of late there ſeems to be ſuch a tendency among ſome of the followers of Boſcovich) they will ſoon involve themſelves in an inextricable labyrinth, and the firſt principles of phyſics will be rendered as myſterious and chimerical, as the pneumatology of the ſchool-men.

The little progreſs which has hitherto been made in the philoſophy of mind, will not appear ſurpriſing to thoſe who have attended to the hiſtory of natural knowledge. It is only ſince the time of Lord Bacon that the ſtudy of it has been proſecuted with any degree of ſucceſs, or that the proper method of conducting it has been generally underſtood. There is even ſome reaſon for doubting, from the crude ſpeculations on medical and chemical ſubjects which are daily offered to the public, whether it be yet underſtood ſo completely as is commonly imagined; and whether a fuller illuſtration of the rules of philoſophiſing, than Bacon or his followers have

given, might not be useful even to physical inquirers.

When we reflect, in this manner, on the shortness of the period during which natural philosophy has been successfully cultivated; and, at the same time, consider how open to our examination the laws of matter are, in comparison of those which regulate the phenomena of thought, we shall neither be disposed to wonder, that the philosophy of mind should still remain in its infancy, nor be discouraged in our hopes concerning its future progress. The excellent models of this species of investigation, which the writings of Dr. Reid exhibit, give us ground to expect that the time is not far distant, when it shall assume that rank which it is entitled to hold, among the sciences.

It would probably contribute much to accelerate the progress of the philosophy of mind, if a distinct explanation were given of its nature and object; and if some general rules were laid down, with respect to the proper method of conducting the study of it. To this subject, however, which is of sufficient extent to furnish matter for a separate work, I cannot attempt to do justice at present; and shall therefore confine myself to the illustration of a few fundamental principles which it will be of essential importance for us to keep in view in the following inquiries.

Upon a slight attention to the operations of our own minds, they appear to be so complicated, and so infinitely diversified, that it seems to be impossible to reduce them to any general laws. In consequence, however, of a more accurate examination, the prospect clears up; and the phenomena, which appeared, at first, to be too various for our comprehension, are found to be the result of a comparatively small number of simple and uncompounded faculties, or of simple and uncompounded principles of action. These faculties and principles are the

general laws of our conſtitution, and hold the ſame place in the philoſophy of mind, that the general laws we inveſtigate in phyſics, hold in that branch of ſcience. In both caſes, the laws which nature has eſtabliſhed, are to be inveſtigated only by an examination of facts; and in both caſes, a knowledge of theſe laws lead to an explanation of an infinite number of phenomena.

In the inveſtigation of phyſical laws, it is well known, that our inquiries muſt always terminate in ſome general fact, of which no account can be given, but that ſuch is the conſtitution of nature. After we have eſtabliſhed, for example, from the aſtronomical phenomena, the univerſality of the law of gravitation, it may ſtill be aſked, whether this law implies the conſtant agency of mind; and (upon the ſuppoſition that it does) whether it be probable that the Deity always operates immediately, or by means of ſubordinate inſtruments? But theſe queſtions, however curious, do not fall under the province of the natural philoſopher. It is ſufficient for his purpoſe, if the univerſality of the fact be admitted.

The caſe is exactly the ſame in the philoſophy of mind. When we have once aſcertained a general fact; ſuch as, the various laws which regulate the aſſociation of ideas, or the dependence of memory on that effort of the mind which we call, attention; it is all we ought to aim at, in this branch of ſcience. If we proceed no farther than facts for which we have the evidence of our own conſciouſneſs, our concluſions will be no leſs certain, than thoſe in phyſics: but if our curioſity leads us to attempt an explanation of the aſſociation of ideas, by certain ſuppoſed vibrations, or other changes, in the ſtate of the brain; or to explain memory, by means of ſuppoſed impreſſions and traces in the ſenſorium; we evidently blend a collection of important and

well-ascertained truths, with principles which rest wholly on conjecture.*

* There is indeed one view of the connexion between mind and matter, which is perfectly agreeable to the just rules of philosophy. The object of this is, to ascertain the laws which regulate their union, without attempting to explain in what manner they are united

Lord Bacon was, I believe, the first who gave a distinct idea of this sort of speculation; and I do not know that much progress has yet been made in it. In his books *de Augmentis Scientiarum*, a variety of subjects are enumerated, in order to illustrate its nature; and undoubtedly, most of these are in a high degree curious and important. The following list comprehends the chief of those he has mentioned; with the addition of several others, recommended to the consideration of philosophers and of medical inquirers, by the late Dr. Gregory. See his Lectures on the duties and qualifications of a Physician.

1. The doctrine of the preservation and improvement of the different senses.

2. The history of the power and influence of the imagination.

3. The history of the several species of enthusiasm.

4. The history of the various circumstances in parents, that have an influence on conception, and the constitution and characters of their children.

5. The history of dreams.

6. The history of the laws of custom and habit.

7. The history of the effects of music, and of such other things as operate on the mind and body, in consequence of impressions made on the senses.

8. The history of natural signs and language, comprehending the doctrine of physiognomy and of outward gesture.

9. The history of the power and laws of the principle of imitation.

To this list various other subjects might be added; particularly, the history of the laws of memory, in so far as they appear to be connected with the state of the body; and the history of the different species of madness.

This view of the connection between mind and matter does not fall properly under the plan of the following work; in which my leading object is to ascertain the principles of our nature, in so far as they can be discovered by attention

The obſervations which have been now ſtated, with reſpect to the proper limits of philoſophical curioſity, have too frequently eſcaped the attention of ſpeculative men, in all the different departments of ſcience. In none of theſe, however, has this inattention produced ſuch a variety of errors and abſurdities, as in the ſcience of mind; a ſubject to which, till of late, it does not ſeem to have been ſuſpected, that the general rules of philoſophiſing are applicable. The ſtrange mixture of fact and hypotheſis, which the greater part of metaphyſical inquiries exhibit, had led almoſt univerſally to a belief, that it is only a very faint and doubtful light, which human reaſon can ever expect to throw on this dark, but intereſting, field of ſpeculation.

Beſide this inattention to the proper limits of philoſophical inquiry, other ſources of error, from which the ſcience of phyſics is entirely exempted, have contributed to retard the progreſs of the philoſophy of mind. Of theſe, the moſt important proceed from that diſpoſition which is ſo natural to every perſon at the commencement of his philoſophical purſuits, to explain intellectual and moral phenomena by the analogy of the material world.

I before took notice of thoſe habits of inattention to the ſubjects of our conſciouſneſs, which take their riſe in that period of our lives when we are neceſſarily employed in acquiring a knowledge of the properties and laws of matter. In conſequence of this early familiarity with the phenomena of the material world, they appear to us leſs myſterious than thoſe of mind; and we are apt to think that we have advanced one ſtep in explaining the latter,

to the ſubjects of our own conſciouſneſs; and to apply theſe principles to explain the phenomena ariſing from them Various incidental remarks, however, will occur in the courſe of our enquiries, tending to illuſtrate ſome of the ſubjects comprehended in the foregoing enumeration.

when we can point out ſome analogy between them and the former. It is owing to the ſame circumſtance, that we have ſcarcely any appropriated language with reſpect to mind, and that the words which expreſs its different operations, are almoſt all borrowed from the objects of our ſenſes. It muſt, however, appear, manifeſt, upon a very little reflection, that as the two ſubjects are eſſentially diſtinct as each of them has its peculiar laws, the analogies we are pleaſed to fancy between them, can be of no uſe in illuſtrating either; and that it is no leſs unphiloſophical to attempt an explanation of perception, or of the aſſociation of ideas, upon mechanical principles; than it would be to explain the phenomena of gravitation, by ſuppoſing, as ſome of the ancients did, the particles of matter to be animated with principles of motion; or to explain the chemical phenomena of elective attractions, by ſuppoſing the ſubſtances among which they are obſerved, to be endowed with thought and volition.—The analogy of matter, therefore, can be of no uſe in the inquiries which form the object of the following work; but, on the contrary, is to be guarded againſt, as one of the principal ſources of error to which we are liable.

Among the different philoſophers who have ſpeculated concerning the human mind, very few indeed can be mentioned, who have at all times been able to guard analogical theories. At the ſame time, it muſt be acknowledged, that ſince the publication of Des Cartes' writings, there has been a gradual, and, on the whole, a very remarkable improvement in this branch of ſcience. One ſtriking proof of this is, the contraſt between the metaphyſical ſpeculations of ſome of the moſt eminent philoſophers in England at the end of the laſt century, and thoſe which we find in the ſyſtems, however imperfect, of the preſent age. Would any writer now offer to the world, ſuch concluſions with re-

ſpect to the mind, as are contained in the two following paſſages from Locke and Newton? "Habbits," (ſays Locke) "ſeem to be but trains of motion in the animal ſpirits, which, "once ſet a-going, "continue in the ſame ſteps they had been uſed "to, which, by often treading, are worn into a "ſmooth path." And Newton himſelf has propoſed the following query, concerning the manner in which the mind perceives external objects. "Is "not" (ſays he) "the ſenſorium of animals the "place where the ſentient ſubſtance is preſent, and "to which the ſenſible ſpecies of things are brought "through the nerves and brain, that they be per-"ceived by the mind preſent in that place?"—In the courſe of the following Eſſays, I ſhall have occaſion to quote various other paſſages from later writers, in which an attempt is made to explain the other phenomena of mind, upon ſimilar principles.

It is however much to be regretted, that even ſince the period when philoſophers began to adopt a more rational plan of inquiry with reſpect to ſuch ſubjects, they have been obliged to ſpend ſo much of their time in clearing away the rubbiſh collected by their predeceſſors. This indeed was a preliminary ſtep, which the ſtate of the ſcience, and the concluſions to which it had led, rendered abſolutely neceſſary; for, however important the poſitive advantages may be, which are to be expected from its future progreſs, they are by no means ſo eſſential to human improvement and happineſs, as a ſatisfactory refutation of that ſceptical philoſophy, which had ſtruck at the root of knowledge, and all belief. Such a refutation ſeems to have been the principal object which Dr. Reid propoſed to himſelf in his metaphyſical inquiries; and to this object his labours have been directed with ſo much ability, candour and perſeverance, that unleſs future ſceptics ſhould occupy a ground very different from that of their predeceſſors, it is not likely that the contro-

verſy will ever be renewed. The rubbiſh being now removed, and the foundations laid, it is time to begin the ſuperſtructure. The progreſs which I have made in it is, I am ſenſible, very inconſiderable; yet I flatter myſelf, that the little I have done, will be ſufficient to illuſtrate the importance of the ſtudy and to recommend the ſubjects of which I am to treat to the attention of others.

After the remarks which I have now made, the reader will not be ſurpriſed to find, that I have ſtudiouſly avoided the conſiderations of thoſe queſtions which have been agitated in the preſent age, between the patrons of the ſceptical philoſophy, and their opponents. Theſe controverſies have, in truth, no peculiar connection with the inquiries on which I am to enter. It is indeed only by an examination of the principles, of our nature, that they can be brought to a ſatisfactory concluſion; but ſuppoſing them to remain undecided, our ſceptical doubts concerning the certainty of human knowledge, would no more affect the philoſophy of mind, than they would affect any of the branches of phyſics; nor would any doubts concerning even the exiſtence of mind, affect this branch of ſcience, any more than the doubts of the Berkleian, concerning the exiſtence of matter, affect his opinions in natural philoſophy.

To what purpoſes the philoſophy of the human mind, according to the view which I propoſe to take of it, is ſubſervient, I ſhall endeavour to explain, at ſome length, in the following ſection.

PART SECOND.

SECTION I.

Of the Utility of the Philoſophy of the Human Mind.

IT has been often remarked, that there is a mutual connexion between the different arts and ſciences; and that the improvements which are made in one branch of human knowledge, frequently throw light on others, to which it has apparently a very remote relation. The modern diſcoveries in aſtronomy, and in pure mathematics, have contributed to bring the art of navigation to a degree of perfection formerly unknown. The rapid progreſs which has been lately made in aſtronomy, anatomy, and botany, has been chiefly owing to the aid which theſe ſciences have received from the art of the optician.

Although, however, the different departments of ſcience and of art mutually reflect light on each other, it is not always neceſſary either for the philoſopher or the artiſt to aim at the acquiſition of general knowledge. Both of them may ſafely take many principles for granted, without being able to demonſtrate their truth. A ſeaman, though ignorant of mathematics, may apply, with correctneſs and dexterity, the rules for finding the longitude: An aſtronomer, or a botaniſt, though ignorant of optics, may avail himſelf of the uſe of the teleſcope, or the microſcope.

Theſe obſervations are daily exemplified in the caſe of the artiſt; who has ſeldom either inclination or leiſure to ſpeculate concerning the principles of

his art. It is rarely, however, we meet with a man of ſcience, who has confined his ſtudies wholly to one branch of knowledge. That curioſity, which he has been accuſtomed to indulge in the courſe of his favourite purſuit, will naturally extend itſelf to every remarkable object which falls under his obſervation; and can ſcarcely fail to be a ſource of perpetual diſſatisfaction to his mind, till it has been ſo far gratified as to enable him to explain all the various phenomena, which his profeſſional habits are every day preſenting to his view.

As every particular ſcience is in this manner connected with others, to which it naturally directs the attention, ſo all the purſuits of life, whether they terminate in ſpeculation or action, are connected with that general ſcience, which has the human mind for its object. The powers of the underſtanding are inſtruments which all men employ; and his curioſity muſt be ſmall indeed, who paſſes through life in a total ignorance of faculties, which his wants and neceſſities force him habitually to exerciſe, and which ſo remarkably diſtinguiſh man from the lower animals. The active principles of our nature, which, by their various modifications and combinations, give riſe to all the moral differences among men, are fitted, in a ſtill higher degree, if poſſible, to intereſt thoſe, who are either diſpoſed to reflect on their own characters, or to obſerve, with attention, the characters of others. The phenomena reſulting from theſe faculties and principles of the mind, are every moment ſoliciting our notice; and open to our examination, a field of diſcovery, as inexhauſtible as the phenomena of the material world; and exhibiting not leſs ſtriking marks of divine wiſdom.

While all the ſciences, and all the purſuits of life, have this common tendency to lead our inquiries to the philoſophy of human nature, this laſt branch of knowledge borrows its principles from no

other ſcience whatever. Hence there is ſomething in the ſtudy of it, which is peculiarly gratifying to a reflecting and inquiſitive mind; and ſomething in the concluſions to which it leads, on which the mind reſts with peculiar ſatisfaction. Till once our opinions are in ſome degree fixed with reſpect to it, we abandon ourſelves, with reluctance, to particular ſcientific inveſtigations; and on the other hand, a general knowledge of ſuch of its principles as are moſt fitted to excite the curioſity, not only prepares us for engaging in other purſuits with more liberal and comprehenſive views, but leaves us at liberty to proſecute them with a more undivided and concentrated attention.

It is not, however, merely as a ſubject of ſpeculative curioſity, that the principles of the human mind deſerve a careful examination. The advantages to be expected from a ſucceſsful analyſis of it are various; and ſome of them of ſuch importance, as to render it aſtoniſhing, that, amidſt all the ſucceſs with which the ſubordinate ſciences have been cultivated, this, which comprehends the principles of all them, ſhould be ſtill ſuffered to remain in its infancy.

I ſhall endeavour to illuſtrate a few of theſe advantages, beginning with what appears to me to be the moſt important of any; the light, which a philoſophical analyſis of the principles of the mind would neceſſarily throw, on the ſubjects of intellectual and moral education.

The moſt eſſential objects of education are the two following: Firſt, to cultivate all the various principles of our nature, both ſpeculative and active, in ſuch a manner as to bring them to the greateſt perfection of which they are ſuſceptible; and, Secondly, by watching over the impreſſions and aſſociations which the mind receives in early life, to ſecure it againſt the influence of prevailing errors; and, as far as poſſible, to engage its prepoſ-

ſeſſions on the ſide of truth. It is only upon a philoſophical analyſis of the mind, that a ſyſtematical plan can be founded, for the accompliſhment of either of theſe purpoſes.

There are few individuals, whoſe education has been conducted in every reſpect with attention and judgment. Almoſt every man of reflection is conſcious, when he arrives at maturity, of many defects in his mental powers; and of many inconvenient habits, which might have been prevented or remedied in his infancy or youth. Such a conſciouſneſs is the firſt ſtep towards improvement; and the perſon who feels it, if he is poſſeſſed of reſolution and ſteadineſs, will not ſcruple to begin, even in advanced years, a new courſe of education for himſelf. The degree of reflection and obſervation, indeed, which is neceſſary for this purpoſe, cannot be expected from any one at a very early period of life, as theſe are the laſt powers of the mind which unfold themſelves; but it is never too late to think of the improvement of our faculties; and much progreſs may be made, in the art of applying them ſucceſsfully to their proper objects, or in obviating the inconveniences reſulting from their imperfection, not only in manhood, but in old age.

It is not, however, to the miſtakes of our early inſtructors, that all our intellectual defects are to be aſcribed. There is no profeſſion or purſuit which has not habits peculiar to itſelf; and which does not leave ſome powers of the mind dormant, while it exerciſes and improves the reſt. If we wiſh, therefore to cultivate the mind to the extent of its capacity, we muſt not reſt ſatisfied with that employment which its faculties receive from our particular ſituation in life. It is not in the awkward and profeſſional form of a mechanic, who has ſtrengthened particular muſcles of his body by the habits of his trade, that we are to look for the per-

fection of our animal nature; neither is it among men of confined purſuits, whether ſpeculative or active, that we are to expect to find the human mind in its higheſt ſtate of cultivation. A variety of exerciſes is neceſſary to preſerve the animal frame in vigour and beauty: and a variety of thoſe occupations which literature and ſcience afford, added to a promiſcuous intercourſe with the world, in the habits of converſation and buſineſs, is no leſs neceſſary for the improvement of the underſtanding. I acknowledge, that there are ſome profeſſions, in which a man of very confined acquiſitions may arrive at the firſt eminence; and in which he will perhaps be the more likely to excel, the more he has concentrated the whole force of his mind to one particular object. But ſuch a perſon, however diſtinguiſhed in his own ſphere, is educated merely to be a literary artizan; and neither attains the perfection, nor the happineſs of his nature. "That "education only can be conſidered as complete and "generous, which" (in the language of Milton) "fits a man to perform juſtly, ſkilfully, and mag-"nanimouſly, all the offices, both private and pub-"lic, of peace and of war."*

I hope it will not be ſuppoſed, from the foregoing obſervations, that they are meant to recommend an indiſcriminate attention to all the objects of ſpeculation and of action. Nothing can be more evident, than the neceſſity of limiting the field of our exertion, if we wiſh to benefit ſociety by our labours. But it is perfectly conſiſtent with the moſt intenſe application to our favourite purſuit. to cultivate that general acquaintance with letters and with the world, which may be ſufficient to enlarge the mind, and to preſerve it from any danger of contracting the pedantry of a particular profeſſion. In many caſes, (as was already remarked,) the ſci-

* Treatise of Education.

ences reflect light on each other; and the general acquisitions which we have made in other pursuits, may furnish us with useful helps for the farther prosecution of our own. But even in those instances in which the case is otherwise, and in which these liberal accomplishments must be purchased by the sacrifice of a part of our professional eminence, the acquisition of them will amply repay any loss we may sustain. It ought not to be the leading object of any one, to become an eminent metaphysician, mathematician, or poet; but to render himself happy as an individual, and an agreeable, a respectable, and an useful member of society. A man who loses his sight, improves the sensibility of his touch; but who would consent, for such a recompence, to part with the pleasures which he receives from the eye?

It is almost unnecessary for me to remark, how much individuals would be assisted in the proper and liberal culture of the mind, if they were previously led to take a comprehensive survey of human nature in all its parts; of its various faculties, and powers, and sources of enjoyment; and of the effects which are produced on these principles by particular situations. It is such a knowledge alone of the capacities of the mind, that can enable a person to judge of his own acquisition; and to employ the most effectual means for supplying his defects, and removing his inconvenient habits. Without some degree of it, every man is in danger of contracting bad habits, before he is aware; and of suffering some of his powers to go to decay, for want of proper exercise.

If the business of early education were more thoroughly, and more generally, understood, it would be less necessary for individuals, when they arrive at maturity, to form plans of improvement for themselves. But education never can be systematically directed to its proper objects, till we have obtained, not only an accurate analysis of the general

principles of our nature, and an account of the moſt important laws which regulate their operation; but an explanation of the various modifications and combinations of theſe principles, which produce that diverſity of talents, genius, and character, we obſerve among men. To inſtruct youth in the languages, and in the ſciences, is comparatively of little importance, if we are inattentive to the habits they acquire; and are not careful in giving, to all their different faculties, and all their different principles of action, a proper degree of employment. Abſtracting entirely from the culture of their moral powers, how extenſive and difficult is the buſineſs of conducting their intellectual improvement! To watch over the aſſociations which they form in their tender years; to give them early habits of mental activity; to rouze their curioſity, and to direct it to proper objects; to exerciſe their ingenuity and invention; to cultivate in their minds a turn for ſpeculation, at the ſame time preſerve their attention alive to the objects around them; to awaken their ſenſibilities to the beauties of nature, and to inſpire them with a reliſh for intellectual enjoyment; —theſe form but a part of the buſineſs of education; and yet the execution even of this part requires an acquaintance with the general principles of our nature, which ſeldom falls to the ſhare of thoſe to whom the inſtruction of youth is commonly intruſted.——Nor will ſuch a theoretical knowledge of the human mind, as I have now deſcribed, be always ſufficient in practiſe. An uncommon degree of ſagacity is frequently requiſite, in order to accommodate general rules to particular tempers, and characters.—In whatever way we chuſe to account for it, whether by original organization, or by the operation of moral cauſes, in very early infancy; no fact can be more undeniable, than that there are important differences diſcernible in the minds of children, previous to that period at which, in general

intellectual education commences. There is, too a certain hereditary character (whether reſulting from phyſical conſtitution, or caught from imitation and the influence of ſituation) which appears remarkably in particular families. One race, for a ſucceſſion of generations, is diſtinguiſhed by a genius for the abſtract ſciences, while it is deficient in vivacity, in imagination, and in taſte: another is no leſs diſtinguiſhed for wit, and gaiety, and fancy; while it appears incapable of patient attention, or of profound reſearch. The ſyſtem of education which is proper to be adopted in particular caſes, ought undoubtedly, to have ſome reference to theſe circumſtances; and to be calculated, as much as poſſible, to develope and cheriſh thoſe intellectual and active principles, in which a natural deficiency is moſt to be apprehended. Monteſquieu, and other ſpeculative politicians, have inſiſted much on the reference which education and laws ſhould have to climate. I ſhall not take upon me to ſay, how far their concluſions on this ſubject are juſt; but I am fully perſuaded, that there is a foundation in philoſophy, and good ſenſe, for accommodating, at a very early period of life, the education of individuals to thoſe particular turns of mind, to which, from hereditary propenſities, or from moral ſituation, they may be preſumed to have a natural tendency.

There are few ſubjects more hackneyed than that of education; and yet there is none, upon which the opinions of the world are ſtill more divided. Nor is this ſurpriſing; for moſt of thoſe who have ſpeculated concerning it, have confined their attention chiefly to incidental queſtions about the comparative advantages of public or private inſtruction, or the utility of particular languages or ſciences; without attempting a previous examination of thoſe faculties and principles of the mind, which it is the great object of education to improve. Many ex-

cellent detached obſervations, indeed, both on the intellectual and moral powers, are to be collected from the writings of ancient and modern authors; but I do not know, that in any language an attempt has been made to analyſe and illuſtrate the principles of human nature, in order to lay a philoſophical foundation for their proper culture.

I have even heard ſome very ingenious and intelligent men diſpute the propriety of ſo ſyſtematical a plan of inſtruction. The moſt ſucceſsful and ſplendid exertions, both in the ſciences and arts, (it has been frequently remarked) have been made by individuals, in whoſe minds the ſeeds of genius were allowed to ſhoot up, wild and free; while from the moſt careful and ſkilful tuition, ſeldom any thing reſults above mediocrity. I ſhall not, at preſent, enter into any diſcuſſions with reſpect to the certainty of the fact on which this opinion is founded. Suppoſing the fact to be completely eſtabliſhed, it muſt ſtill be remembered, that originality of genius does not always imply vigor and comprehenſiveneſs, and liberality of mind; and that it is deſirable only, in ſo far as it is compatible with theſe more valuable qualities I already hinted, that there are ſome purſuits, in which as they require the exertion only of a ſmall number of our faculties, an individual, who has a natural turn for them, will be more likely to diſtinguiſh himſelf, by being ſuffered to follow his original bias, than if his attention were diſtracted by a more liberal courſe of ſtudy. But wherever ſuch men are to be found, they muſt be conſidered, on the moſt favourable ſuppoſition, as having ſacrificed, to a certain degree, the perfection or the happineſs of their nature to the amuſement or inſtruction of others. It is too, in times of general darkneſs and barbariſm, that what is commonly called originality of genius moſt frequently appears: and ſurely the great aim of an enlightened and benevolent philoſophy, is not to rear a ſmall number of individuals,

who may be regarded as prodigies in an ignorant and admiring age, but to diffuſe, as widely as poſſible, that degree of cultivation which may enable the bulk of a people to poſſeſs all the intellectual and moral improvement of which their nature is ſuſceptible. "Original genius" (ſays Voltaire) "occurs "but ſeldom in a nation where the literary taſte is "formed. The number of cultivated minds which "there abound, like the trees in a thick and flou-"riſhing foreſt, prevent any ſingle individual from "rearing his head far above the reſt. Where trade "is in few hands, we meet with a ſmall number of "over-grown fortunes in the midſt of a general "poverty: in proportion as it extends, opulence "becomes general, and great fortunes rare. It is, "preciſely, becauſe there is at preſent much light, "and much cultivation, in France, that we are led "to complain of the want of ſuperior genius."

To what purpoſe, indeed, it may be ſaid, all this labour? Is not the importance of every thing to man, to be ultimately eſtimated by its tendency to promote his happineſs? And is not our daily experience ſufficient to convince us, that this is, in general, by no means proportioned to the culture which his nature has received?—Nay, is there not ſome ground for ſuſpecting, that the lower orders of men enjoy, on the whole, a more enviable condition, than their more enlightened and refined ſuperiors?

The truth, I apprehend, is, that happineſs, in ſo far as it ariſes from the mind itſelf, will be always proportioned to the degree of perfection which its powers have attained; but that, in cultivating theſe powers, with a view to this moſt important of all objects, it is eſſentially neceſſary that ſuch a degree of attention be beſtowed on all of them, as may preſerve them in that ſtate of relative ſtrength, which appears to be agreeable to the intentions of nature. In conſequence of an excluſive attention to

the culture of the imagination, the taſte, the reaſoning faculty, or any of the active principles, it is poſſible that the pleaſures of human life may be diminiſhed, or its pains increaſed: but the inconveniences which are experienced in ſuch caſes, are not to be aſcribed to education, but to a partial and injudicious education. In ſuch caſes, it is poſſible, that the poet, the metaphyſician, or the man of taſte and refinement, may appear to diſadvantage when compared with the vulgar; for ſuch is the benevolent appointment of Providence with reſpect to the lower orders, that, although not one principle of their nature be completely unfolded, the whole of theſe principles preſerve among themſelves, that balance which favourable to the tranquility of their minds, and to a prudent and ſteady conduct in the limited ſphere which is aſſigned to them, far more completely, than in thoſe of their ſuperiors, whoſe education has been conducted on an erroneous or imperfect ſyſtem: but all this, far from weakening the force of the foregoing obſervations, only ſerves to demonſtrate how impoſſible it always will be, to form a rational plan for the improvement of the mind, without an accurate and comprehenſive knowledge of the principles of the human conſtitution.

The remarks which have been already made, are, I flatter myſelf, ſufficient to illuſtrate the dangerous conſequences which are likely to reſult from a partial and injudicious cultivation of the mind; and, at the ſame time, to point out the utility of the intellectual philoſophy, in enabling us to preſerve a proper balance among all its various faculties, principles of action, and capacities of enjoyment. Many additional obſervations might be offered, on the tendency which an accurate analyſis of its powers might probably have, to ſuggeſt rules for their farther improvement, and for a more ſucceſsful application of them to their proper purpoſes: but this ſubject I

ſhall not proſecute at preſent, as the illuſtration of it is one of the leading objects of the following work.—That the memory, the imagination, or the reaſoning faculty, are to be inſtantly ſtrengthened in conſequence of our ſpeculations concerning their nature, it would be abſurd to ſuppoſe; but it is ſurely far from being unreaſonable to think, that an acquaintance with the laws which regulate theſe powers, may ſuggeſt ſome uſeful rules for their gradual cultivation; for remedying their defects, in the caſe of individuals, and even for extending thoſe limits, which nature ſeems, at firſt view, to have aſſigned them.

To how great a degree of perfection the intellectual and moral nature of man is capable of being raiſed by cultivation, it is difficult to conceive. The effects of early, continued, and ſyſtematical education, in the caſe of thoſe children who are trained, for the ſake of gain, to feats of ſtrength and agility, juſtify, perhaps, the moſt ſanguine views which it is poſſible for a philoſopher to form, with reſpect to the improvement of the ſpecies.

I now proceed to conſider, how far the philoſophy of mind may be uſeful in accompliſhing the ſecond object of education; by aſſiſting us in the management of early impreſſions and aſſociations.

By far the greater part of the opinions on which we act in life, are not the reſult of our own inveſtigation; but are adopted implicitly, in infancy and youth, upon the authority of others. Even the great principles of morality, although implanted in every heart, are commonly aided and cheriſhed, at leaſt to a certain degree, by the care of our inſtructors.—All this is undoubtedly agreeable to the intentions of nature; and, indeed, were the caſe otherwiſe, ſociety could not ſubſiſt; for nothing can be more evident, than that the bulk of mankind, condemned as they are to laborious occupations, which are incompatable with intellectual im-

provement, are perfectly incapable of forming their own opinions on some of the most important subjects that can employ the human mind. It is evident, at the same time, that as no system of education is perfect, a variety of predjudices must, in this way, take an early hold of our belief; so as to acquire over it an influence not inferior to that of the most incontrovertible truths. When a child hears either a speculative absurdity, or an erroneous principle of action, reccommended and enforced daily, by the same voice which first conveyed to it those simple and sublime lessons of morality and religion which are congenial to its nature, is it to be wondered at, that, in future life, it should find it so difficult to eradicate prejudices which have twined their roots with all the essential principles of the human frame?—If such, however, be the obvious intentions of nature, with respect to those orders of men who are employed in bodily labour, it is equally clear, that she meant to impose it as double obligation on those who receive the advantages of a liberal education, to examine, with the most scrupulous care, the foundation of all those received opinions, which have any connexion with morality, or with human happiness. If the multitude must be led, it is of consequence, surely, that it should be led by enlightened conductors; by men who are able to distinguish truth from error; and to draw the line between those prejudices which are innocent or salutary, (if indeed there are any prejudices which are really salutary,) and those which are hostile to the interests of virtue and mankind.

In such a state of society as that in which we live the prejudices of a moral, a political, and a religious nature, which we imbibe in early life, are so various, and at the same time so intimately blended with the belief we entertain of the most sacred and important truths, that a great part of the life of a philosopher must necessarily be devoted, not so

much to the acquiſition of new knowledge, as to unlearn the errors to which he had been taught to give an implicit aſſent, before the dawn of reaſon and reflexion. And unleſs he ſubmit in this manner to bring all his opinions to the teſt of a ſevere examination, his ingenuity, and his learning, inſtead of enlightening the world, will only enable him to give additional currency, and an additional authority to eſtabliſhed errors. To attempt ſuch a ſtruggle againſt early prejudices, is, indeed, the profeſſed aim of all philoſophers; but how few are to be found, who have force of mind ſufficient for accompliſhing their object; and who, in freeing themſelves from one ſet of errors, do not allow themſelves to be carried away with another? To ſucceed in it completely, Lord Bacon ſeems to have thought, (in one of the moſt remarkable paſſages of his writings,) to be more than can well be expected from human frailty. "Nemo adhuc tanta mentis conſtantia inventus eſt, "ut decreverit, et ſibi impoſuerit, theorias et "notiones cummunes penitus abolere, et intellec-"tum abraſum et æpuum ad particularia, de inte-"gro, applicare. Itaque illa ratio humana, quam "habemus, ex multa fide, et multo etiam caſu, "nec non ex puerilibus, quas primo hauſimus, no-"tionibus farrago qædam eſt, et congeries. "Quod ſiquis, ætate matura, et ſenſibus integris, "et mente repurgata, ſe ad experientiam, et ad "particularia de integro applicet, de eo melius ſpe-"randum eſt."

Nor is it merely in order to free the mind from the influence of error, that it is uſeful to examine the foundation of eſtabliſhed opinions. It is ſuch an examination alone, that, in an inquiſitive age like the preſent, can ſecure a philoſopher from the danger of unlimited ſcepticiſm. To this extreme, indeed, the complexion of the times is more likely to give him a tendency, than to implicit credulity. In the former ages of ignorance aud ſuperſtition, the inti-

mate aſſociation which had been formed in the prevailing ſyſtems of education, between truth and error, had given to the latter an aſcendant over the minds of men, which it could have never acquired if diveſted of ſuch an alliance. The caſe has, of late years, been moſt remarkably reverſed: the common ſenſe of mankind, in conſequence of the growth of a more liberal ſpirit of inquiry, has revolted againſt many of thoſe abſurdities, which had ſo long held human reaſon in captivity: and it was perhaps, more than could reaſonably have been expected, that, in the firſt moments of their emancipation, philoſophers ſhould have ſtopped ſhort, at the preciſe boundary, which cooler reflection, and more moderate views, would have preſcribed. The fact is, that they have paſſed far beyond it; and that, in their zeal to eradicate prejudices, they have attempted to tear up by the roots, many of the beſt and happieſt and moſt eſſential principles of our nature. Having remarked the wonderful influence of education over the mind, they have concluded, that man is wholly a factitious being; not recollecting, that this very ſuſceptibility of education preſuppoſes certain original principles which are common to the whole ſpecies; and that, as error can only take a permanent hold of a candid mind by being grafted on truths, which it is unwilling or unable to eradicate; even the influence, which falſe and abſurd opinions occaſionally acquire over the belief, inſtead of being an argument for univerſal ſcepticiſm, is the moſt deciſive argument againſt it; inaſmuch as it ſhews, that there are ſome truths ſo incorporated and identified with our nature, that they can reconcile us even to the abſurdities and contradictions with which we ſuppoſe them to be inſeparably connected. The ſceptical philoſophers, for example, of the preſent age, have frequently attempted to hold up to ridicule, thoſe contemptible and puerile ſuperſtitions, which have diſgraced the creeds

of ſome of the moſt elightened nations; and which have not only commanded the aſſent, but the reverence of men of the moſt accompliſhed underſtandings. But theſe hiſtories of human imbecility are, in truth, the ſtrongeſt teſtimonies which can be produced, to prove, how wonderful is the influence of the fundamental principles of morality over the belief; when they are able to ſanctify, in the apprehenſions of mankind, every extravagant opinion, and every unmeaning ceremony, which early education has taught us to aſſociate with them.

That implicit credulity is a mark of a feeble mind, will not be diſputed; but it may not perhaps be as generally acknowledged, that the caſe is the ſame with unlimited ſcepticiſm: on the contrary, we are ſometimes apt to aſcribe this diſpoſition to a more than ordinary vigour of intellect. Such a prejudice was by no means unnatural at that period in the hiſtory of modern Europe, when reaſon firſt began to throw off the yoke of authority; and when it unqueſtionably required a ſuperiority of underſtanding, as well as of intrepidity, for an individual to reſiſt the contagion of prevailing ſuperſtition. But in the preſent age, in which the tendency of faſhionable opinions is directly oppoſite to thoſe of the vulgar; the philoſophical creed, or the philoſophical ſcepticiſm of by far the greater number of thoſe who value themſelves on an emancipation from popular errors, ariſes from the very ſame weakneſs with the credulity of the multitude: nor is it going too far to ſay, with Rouſſeau, that, "He "who, in the end of the eighteenth century, has "brought himſelf to abandon all his early principles "without diſcrimination, would probably have "been a bigot in the days of the League." In the midſt of theſe contrary impulſes, of faſhionable and of vulgar prejudices, he alone evinces the ſuperiority and the ſtrength of his mind, who is able to diſentangle truth from error; and to oppoſe the

clear concluſions of his own unbiaſſed faculties, to the united clamours of ſuperſtition, and of falſe philoſophy.—Such are the men, whom nature marks out to be the lights of the world; to fix the wavering opinions of the multitude, and to impreſs their own characters on that of their age.

For ſecuring the mind completely from the weakneſſes I have now been deſcribing, and enabling it to maintain a ſteady courſe of inquiry, between implicit credulity, and unlimited ſcepticiſm, the moſt important of all qualities is a ſincere and devoted attachment to truth; which ſeldom fails to be accompanied with a manly confidence in the clear concluſions of human reaſon. It is ſuch a confidence, united (as it generally is) with perſonal intrepidity, which forms what the French writers call force of character;* one of the raireſt endowments, it muſt be confeſſed, of our ſpecies; but which, of all endowments; is the moſt eſſential for rendering a philoſopher happy in himſelf and a bleſſing to mankind.

There is, I think, good reaſon for hoping, that the ſceptical tendency of the preſent age, will be only a temporary evil. While it continues, however, it is an evil of the moſt alarming nature; and, as it extends, in general, not only to religion and morality, but, in ſome meaſure, alſo to politics, and the conduct of life, it is equally fatal to the comfort of the individual, and to the improvement of ſociety. Even in its moſt inoffenſive form, when it happens to be united to a peaceable diſpoſition and a benevolent heart, it cannot fail to have the effect of damping every active and patriotic exertion. Convinced that truth is placed beyond the reach of the human faculties; and doubtful how far the pre-

* Cette conviction forte de l'eſprit, ſi ell s'unit au courage, produit la force de charactere; et on ſent combien elle doit etre rare.——Vie de Turgot par le Marquis de Condorcet, partie ii. p. 130.

judices we deſpiſe, may not be eſſential to the well-being of ſociety, we reſolve to abandon completely all ſpeculative inquiries; and ſuffering ourſelves to be carried quietly along with the ſtream of popular opinions, and of faſhionable manners, determine to amuſe ourſelves, the beſt way we can, with buſineſs or pleaſure, during our ſhort paſſage through this ſcene of illuſions. But he who thinks more favourably of the human powers, and who believes that reaſon was given man to direct him to his duty and his happineſs, will deſpiſe the ſuggeſtions of this timid philoſophy; and while he is conſcious that he is guided in his inquiries only by the love of truth, will reſt aſſured that their reſult will be equally favourable to his own comfort, and to the beſt intereſts of mankind. What, indeed, will be the particular effects in the firſt inſtance, of that general diffuſion of knowledge, which the art of printing muſt ſooner or later produce; and of that ſpirit of reformation with which it cannot fail to be accompanied, it is beyond the reach of human ſagacity to conjecture: but unleſs we chuſe to abandon ourſelves entirely to a deſponding ſcepticiſm, we muſt hope and believe, that the progreſs of human reaſon can never be a ſource of permanent diſorder to the world; and that they alone have cauſe to apprehend the conſequences, who are led by the imperfection of our preſent inſtitutions, to feel themſelves intereſted in perpetuating the prejudices, and follies, of their ſpecies.

From the obſervations which have been made, it ſufficiently appears, that in order to ſecure the mind, on the one hand, from the influence of prejudice; and on the other, from a tendency to unlimited ſcepticiſm; it is unneceſſary that it ſhould be able to diſtinguiſh the original and univerſal principles and laws of human nature, from the adventitious effects of local ſituation. But if, in the caſe of an individual, who has received an imperfect or

erroneous education, such a knowledge puts it in his power to correct, to a certain degree, his own bad habits, and to surmount his own speculative errors; it enables him to be useful, in a much higher degree, to those whose education he has an opportunity of superintending from early infancy. Such, and so permanent, is the effect of first impressions, on the character, that although a philosopher may succeed, by perseverance in freeing his reason from the prejudices with which he was entangled, they will still retain some hold of his imagination, and his affections: and, therefore, however enlightened his understanding may be in his hours of speculation, his philosophical opinions will frequently lose their influence over his mind, in those very situations in which their practical assistance is most required: when his temper is soured by misfortune; or when he engages in the pursuits of life, and exposes himself to the contagion of popular errors. His opinions are supported merely by speculative arguments; and, instead of being connected with any of the active principles of his nature, are contracted and thwarted by some of the most powerful of them. How different would the case be, if education were conducted from the beginning with attention and judgment? Were the same pains taken, to impress truth on the mind in early infancy, that is often taken to inculcate error, the great principles of our conduct would not only be juster than they are; but, in consequence of the aid which they would receive from the imagination and the heart, trained to conspire with them in the same direction, they would render us happier in ourselves, and would influence our practice more powerfully and more habitually. There is surely nothing in error, which is more congenial to the mind than truth. On the contrary, when exhibited seperately, and alone to the understanding, it shocks our reason, and provokes our ridicule; and it is only,

(as I had occaſion already to remark) by an alliance with truths, which we find it difficult to renounce, that it can obtain our aſſent, or command our reverence. What advantages, then, might be derived from a proper attention to early impreſſions and aſſociations, in giving ſupport to thoſe principles which are connected with human happineſs? The long reign of error in the world, and the influence it maintains, even in an age of liberal inquiry: far from being favourable to the ſuppoſition, that human reaſon is deſtined to be forever the ſport of prejudice and abſurdity, demonſtrate, the tendency which there is to permanence in eſtabliſhed opinions, and in eſtabliſhed inſtitutions; and promiſes an eternal ſtability to true philoſophy, when it ſhall once have acquired the aſcendant; and when proper means ſhall be employed to ſupport it, by a more perfect ſyſtem of education.

Let us ſuppoſe, for a moment, that this happy æra were arrived, and that all the prepoſſeſſions of childhood and youth were directed to ſupport the pure and ſublime truths of an enlightened morality. With what ardour, and with what tranſport would the underſtanding, when arrived at maturity, proceed in the ſearch of truth; when, inſtead of being obliged to ſtruggle, at every ſtep, with early prejudices, its office was merely to add the force of philoſophical conviction, to impreſſions, which are equally delightful to the imagination, and dear to the heart! The prepoſſeſſions of childhood would, through the whole of life, be gradually acquiring ſtrength from the enlargement of our knowledge; and, in their turn, would fortify the concluſions of our reaſon, againſt the ſceptical ſuggeſtions of diſappointment or melancholy.

Our daily experience may convince us, how ſuſceptible the tender mind is of deep impreſſions; and what important and permanent effects are produced on the characters, and the happineſs of in-

dividuals, by the casual associations formed in childhood among the various ideas, feelings, and affections, with which they were habitually occupied. It is the business of education not to counteract this constitution of nature, but to give it a proper direction: and the miserable consequences to which it leads, when under an improper regulation, only shew, what an important instrument of human improvement it might be rendered, in more skilful hands. If it be possible to interest the imagination and the heart in favour of error, it is, at least, no less possible to interest them in favour of truth. If it be possible to extinguish all the most generous and heroic feelings of our nature, by teaching us to connect the idea of them with those of guilt and impiety; it is surely equally possible to cherish and strengthen them, by establishing the natural alliance between our duty and our happiness. If it be possible for the influence of fashion to veil the native deformity of vice, and to give to low and criminal indulgences the appearance of spirit, of elegance, and of gaiety; can we doubt of the possibility of connecting, in the tender mind, these pleasing associations, with pursuits that are truly worthy and honourable?——There are few men to be found, among those who have received the advantages of a liberal education, who do not retain, through life, that admiration of the heroic ages of Greece and Rome, with which the classical authors once inspired them. It is, in truth, a fortunate prepossession, on the whole, and one, of which I should be sorry to counteract the influence. But are there not others of equal importance to morality and to happiness, with which the mind might, at the same period of life, be inspired? If the first conceptions, for example, which an infant formed of the Deity, and its first moral perceptions, were associated with the early impressions produced on the heart by the beauties of nature, or the charms

of poetical deſcription, thoſe ſerious thoughts which are reſorted to, by moſt men merely as a ſource of conſolation in adverſity; and which, on that very account, are frequently tinctured with ſome degree of gloom, would recur ſpontaneouſly to the mind, in its beſt and happieſt hours; and would inſenſibly blend themſelves with all its pureſt and moſt refined enjoyments.

In thoſe parts of Europe, where the prevailing opinions involve the greateſt variety of errors and corruptions, it is, I believe, a common idea with many reſpectable and enlightened men, that, in every country, it is moſt prudent to conduct the religious inſtruction of youth upon the plan which is preſcribed by the national eſtabliſhment; in order that the pupil according to the vigour or feebleneſs of his mind, may either ſhake off, in future life, the prejudices of the nurſery, or die in the popular perſuaſion. This idea, I own, appears to me to be equally ill founded and dangerous. If religious opinions have, as will not be diſputed, a powerful influence on the happineſs, and on the conduct of mankind, does not humanity require of us, to reſcue as many victims as poſſible from the hands of bigotry; and to ſave them from the cruel alternative, of remaining under the gloom of a depreſſing ſuperſtition, or of being diſtracted by a perpetual conflict between the heart and the underſtanding? It is an enlightened education alone, that, in moſt countries of Europe, can ſave the young philoſopher from that anxiety and deſpondence, which every man of ſenſibility, who, in his childhood has imbibed the popular opinions, muſt neceſſarily experience, when he firſt begins to examine their foundation; and, what is of ſtill greater importance, which can ſave him during life, from that occaſional ſcepticiſm, to which all men are liable, whoſe ſyſtems fluctuate with the inequalities of their ſpirits, and the variations of the atmoſphere.

I ſhall conclude this ſubject, with remarking, that, although in all moral and religious ſyſtems, there is a great mixture of important truth; and although it is, in conſequence of this alliance, that errors and abſurdities are enabled to preſerve their hold of the belief, yet it is commonly found, that, in proportion as an eſtabliſhed creed is complicated in its dogmas and in its ceremonies, and in proportion to the number of acceſſory ideas which it has grafted upon the truth, the more difficult is it, for thoſe who have adopted it in childhood, to emancipate themſelves completely from its influence; and, in thoſe caſes in which they at laſt ſucceed, the greater is their danger of abandoning, along with their errors, all the truths which they had been taught to connect with them. The Roman catholic ſyſtem is ſhaken, with much greater difficulty, than thoſe which are taught in the reformed churches; but when it loſes its hold of the mind, it much more frequently prepares the way for unlimited ſcepticiſm. The cauſes of this I may perhaps have an opportunity of pointing out, in treating of the aſſociation of ideas.

I have now finiſhed all that I think neceſſary to offer, at preſent, on the application of the philoſophy of mind to the ſubject of education. To ſome readers, I am afraid, that what I have advanced on the ſubject, will appear to border upon enthuſiaſm; and I will not attempt to juſtify myſelf againſt the charge. I am well aware of the tendency which ſpeculative men ſometimes have, to magnify the effects of education, as well as to entertain too ſanguine views of the improvement of the world; and I am ready to acknowledge, that there are inſtances of individuals, whoſe vigour of mind is ſufficient to overcome every thing that is pernicious in their early habits: but I am fully perſuaded, that theſe inſtances are rare; and that, by far the greater part of mankind continue, through life, to purſue the

ſame track into which they have been thrown, by the accidental circumſtances of ſituation, inſtruction, and example.

PART SECOND.

SECTION II.

Continuation of the ſame Subject.

THE remarks which have been hitherto made, on the utility of the philoſophy of the human mind are of a very general nature, and apply equally to all deſcriptions of men. Beſides, however, theſe more obvious advantages of the ſtudy, there are others, which, though leſs ſtriking, and leſs extenſive in their application, are nevertheleſs, to ſome particular claſſes of individuals, of the higheſt importance. Without pretending to exhauſt the ſubject I ſhall offer a few detached obſervations upon it, in this ſection.

I already took notice in general terms of the common relation which all the different branches of our knowledge bear to the philoſophy of the human mind. In conſequence of this relation, it not only forms an intereſting object of curioſity to literary men of every denomination; but, if ſucceſsfully proſecuted, it cannot fail to furniſh uſeful lights for directing their inquiries; whatever the nature of the ſubjects may be, which happen to engage their attention.

In order to be ſatisfied of the juſtneſs of this obſervation, it is ſufficient to recollect that to the philoſophy of the mind are to be referred, all our

inquiries concerning the diviſions and the claſſifications of the objects of human knowledge; and alſo all the various rules, both for the inveſtigation, and the communication, of truth. Theſe general views of ſcience, and theſe general rules of method, ought to form the ſubjects of a rational and uſeful logic; a ſtudy, undoubtedly, in itſelf of the greateſt importance and dignity, but in which leſs progreſs has hitherto been made than is commonly imagined.

I ſhall endeavour to illuſtrate, very briefly, a few of the advantages which might be expected to reſult from ſuch a ſyſtem of logic, if properly executed.

I. And, in the firſt place, it is evident that it would be of the higheſt importance in all the ſciences, (in ſome of them, indeed, much more than in others) to exhibit a preciſe and ſteady idea of the objects which they preſent to our inquiry.—— What was the principal circumſtance which contributed to miſlead the ancients, in their phyſical reſearches? Was it not their confuſed and wavering notions about the particular claſs of truths, which it was their buſineſs to inveſtigate? It was owing to this that they were led to neglect the obvious phenomena and laws of moving bodies: and to indulge themſelves in conjectures about the efficient cauſes of motion, and the nature of thoſe minds, by which they conceived the particles of matter to be animated; and that they ſo often blended the hiſtory of facts, with their metaphyſical ſpeculations. In the preſent ſtate of ſcience, indeed, we are not liable to ſuch miſtakes in natural philoſophy; but it would be difficult to mention any other branch of knowledge, which is entirely exempted from them. In metaphyſics, I might almoſt ſay, they are at the bottom of all our controverſies. In the celebrated diſpute, for example, which has been ſo long carried on, about the explanation given by the ideal theory of the phenomena of perception, the whole difficulty

aroſe from this, that philoſophers had no preciſe idea of the point they wiſhed to aſcertain; and now that the controverſey has been brought to a concluſion, (as I think all men of candour muſt confeſs it to have been by Dr. Reid) it will be found, that his doctrine on the ſubject throws no light whatever, on what was generally underſtood to be the great object of inquiry; I mean, on the mode of communication between the mind and the material world: and, in truth, amounts only to a preciſe deſcription of the fact, ſtripped of all hypotheſis, and ſtated in ſuch a manner as to give us a diſtinct view of the inſurmountable limits which nature has in this inſtance preſcribed to our curioſity. The ſame obſervation may be made, on the reaſonings of this profound and original author, with reſpect to ſome metaphyſical queſtions that had been ſtarted on the ſubject of viſion; in particular, concerning the cauſe of our ſeeing objects ſingle with two eyes, and our ſeeing objects erect by means of inverted images on the retina.

If we were to examine, in like manner, the preſent ſtate of morals, of juriſprudence, of politics, and of philoſophical criticiſm; I believe, we ſhould find, that the principal circumſtance which retards their progreſs, is the vague and indiſtinct idea, which thoſe who apply to the ſtudy of them have aformed to themſelves of the objects of their reſearches. Were theſe objects once clearly defined, and the proper plan of inquiry for attaining them illuſtrated by a few unexceptionable models, writers of inferior genius would be enabled to employ their induſtry to much more advantage; and would be prevented from adding to that rubbiſh, which, in conſequence of the ill-directed ingenuity of our predeceſſors, obſtructs our progreſs in the purſuit of truth.

As a philoſophical ſyſtem of logic would aſſiſt us in our particular ſcientific inveſtigations, by keep-

ing ſteadily in our view the attainable objects of human curioſity; ſo, by exhibiting to us the relation in which they all ſtand to each other, and the relation which they all bear to what ought to be their common aim, the advancement of human happineſs, it would have a tendency to confine induſtry and genius to inquiries which are of real practical utility; and would communicate a dignity to the moſt ſubordinate purſuits, which are in any reſpect ſubſervient to ſo important a purpoſe. When our views are limited to one particular ſcience, to which we have been led to devote ourſelves by taſte or by accident, the courſe of our ſtudies reſembles the progreſs of a traveller through an unknown country; whoſe wanderings, from place to place, are determined merely by the impulſe of occaſional curioſity; and whoſe opportunities of information muſt neceſſarily be limited to the objects which accidentally preſent themſelves to his notice. It is the philoſophy of the mind alone, which by furniſhing us with a general map of the field of human knowledge, can enable to proceed with ſteadineſs, and in an uſeful direction; and while it gratifies our curioſity, and animates our exertions, by exhibiting to us all the various bearings of our journey, can conduct us to theſe eminences from whence the eye may wander over the vaſt and unexplored regions of ſcience. Lord Bacon was the firſt perſon who took this comprehenſive view of the different departments of ſtudy; and who pointed out, to all the claſſes of literary men, the great end to which their labours ſhould conſpire; the multiplication of the ſources of human enjoyment, and the extenſion of man's dominion over nature. Had this object been kept ſteadily in view by his followers, their diſcoveries, numerous and important as they have been, would have advanced with ſtill greater

rapidity, and would have had a much more extenſive influence on the practical arts of life.*

From ſuch a ſyſtem of logic, too, important aſſiſtance may be expected, for reforming the eſtabliſhed plan of public or academical education. It is melancholy to reflect on the manner in which this is carried on, in moſt, perhaps, I might ſay in all the countries of Europe; and that, in an age of comparative light and liberality, the intellectual and moral characters of youth ſhould continue to be formed on a plan deviſed by men who were not only ſtrangers to the buſineſs of the world, but who felt themſelves intereſted in oppoſing the progreſs of uſeful knowledge.

For accompliſhing a reformation in the plan of academical ſtudy, on rational and ſyſtematical principles, it is neceſſary, in the firſt place, to conſider the relation in which the different branches of literature, and the different arts and ſciences ſtand to each other, and to the practical purpoſes of life: and ſecondly, to conſider them in relation to the human mind, in order to determine the arrangement, beſt fitted for unfolding and maturing its faculties. Many valuable hints towards ſuch a work may be collected from Lord Bacon's writings.

II. Another very important branch of a rational ſyſtem of logic (as I had occaſion already to obſerve) ought to be; to lay down the rules of inveſtigation which it is proper to follow in the different ſciences. In all of theſe, the faculties of the underſtanding are the inſtruments with which we operate; and

* Omnium autem graviſſimus error in deviatione ab ultimo doctrinarum fine conſiſtit. Appetunt enim homines ſcientiam, alii ex inſitâ curioſitate et irrequietâ; alii animi cauſâ et delectationis, alii exiſtimationis gratiâ: alii contentionis ergo, atque ut in differendo ſuperiores ſint: plerique propter lucrum et victum: pauciſſimi, ut donum rationis, divinitus datum, in uſus humani generis impendant.—Hoc enim illud eſt, quod revera doctrinam atque artes condecoraret, et attoleret, ſi contemplatio, et actio, arctiore, quam adhuc vinculo conularentur. De Aug. Scient. lib. i.

without a previous knowledge of their nature, it is impoſſible to employ them to the beſt advantage. In every exerciſe of our reaſoning and of our inventive powers, there are generally laws which regulate the progreſs of the mind; and when once theſe laws are aſcertained, they enable us to ſpeculate and to invent, for the future, with more ſyſtem, and with a greater certainty of ſucceſs.—In the mechanical arts, it is well known, how much time and ingenuity are miſapplied, by thoſe who acquire their practical ſkill, by their own trials, undirected by the precepts or example of others. What we call the rules of an art, are merely a collection of general obſervations, ſuggeſted by long experience, with reſpect to the moſt compendious and effectual means of performing every different ſtep of the proceſſes which the art involves. In conſequence of ſuch rules, the artiſt is enabled to command the ſame ſucceſs in all his operations, for which the unſkilled workman muſt truſt to a happy combination of accidental circumſtances; the miſapplications, too, of the labour of one race are ſaved to the next; and the acquiſition of practical addreſs is facilitated, by confining its exertions to one direction.—The analogy is perfect, in thoſe proceſſes which are purely intellectual; and to regulate which, is the great object of logic. In the caſe of individuals, who have no other guide to direct them in their inquiries than their own natural ſagacity, much time and ingenuity muſt inevitably be thrown away, in every exertion of the inventive powers. In proportion, however, to the degree of their experience and obſervation, the number of the miſapplications will diminiſh; and the power of invention will be enabled to proceed with more certainty and ſteadineſs to its object. The misfortune is, that as the aids, which the underſtanding derives from experience, are ſeldom recorded in writing, or even deſcribed in words, every ſucceeding inquirer finds himſelf,

at the commencement of his philoſophical purſuits, obliged to ſtruggle with the ſame diſadvantages which had retarded the progreſs of his predeceſſors. If the more important practical rules, which habits of inveſtigation ſuggeſt to individuals, were diligently preſerved, each generation would be placed in circumſtances more favourable to invention than the preceding; and the progreſs of knowledge, inſtead of cramping original genius, would aſſiſt and direct its exertions. In the infancy of literature, indeed, its range may be more unbounded, and its accidental excurſions may excite more aſtoniſhment, than in a cultivated and enlightened age; but it is only in ſuch an age, that inventive genius can be trained by rules founded on the experience of our predeceſſors, in ſuch a manner as to inſure the gradual and regular improvement of ſcience. So juſt is the remark of Lord Bacon: "Certo ſciant hom-"ines, artes inveniendi ſolidas et veras adoleſcere et "incrementa ſumere cum ipſis inventis."

The analogy between the mechanical arts, and the operations of ſcientific invention, might perhaps be carried further. In the former, we know how much the natural powers of man have been aſſiſted by the uſe of tools and inſtruments. Is it not poſſible to deviſe, in like manner, certain aids to our intellectual faculties?

That ſuch a query is not altogether chimerical, appears from the wonderful effects of algebra (which is preciſely ſuch an inſtrument of thought, as I have been now alluding to) in facilitating the inquiries of modern mathematicians. Whether it might not be poſſible to realiſe a project which Leibnitz has ſomewhere mentioned, of introducing a ſimilar contrivance into other branches of knowledge, I ſhall not take upon me to determine; but that this idea has at leaſt ſome plauſibility, muſt, I think, be evident to thoſe who have reflected on the nature of the general terms which abound more or leſs in every cul-

tivated language; and which may be conſidered as one ſpecies of inſtrumental aid which art has diſcovered to our intellectual powers. From the obſervations which I am afterwards to make, it will appear, that without general terms, all our reaſonings muſt neceſſarily have been limited to particulars; and conſequently it is owing to the uſe of theſe, that the philoſopher is enabled to ſpeculate concerning claſſes of objects, with the ſame facility with which the ſavage or the peaſant ſpeculates concerning the individuals of which they are compoſed. The technical terms in the different ſciences, render the appropriated language of philoſophy a ſtill more convenient inſtrument of thought, than thoſe languages which have originated from popular uſe; and in proportion as theſe technical terms improve in point of preciſion and comprehenſiveneſs, they will contribute to render our intellectual progreſs more certain and more rapid. "While engaged" (ſays Mr. Laviofier) "in the compoſition of my Elements of Chem-"iſtry, I perceived, better than I had ever done "before, the truth of an obſervation of Condillac, "that we think only through the medium of "words; and that languages are true analytical "methods. Algebra, which, of all our modes of "expreſſion, is the moſt ſimple, the moſt exact, "and the beſt adapted to its purpoſe, is, at the "ſame time, a language and an analytical method. "the art of reaſoning is nothing more than a lan-"guage well arranged." The influence which theſe very enlightened and philoſophical views have already had on the doctrines of chemiſtry, cannot fail to be known to moſt of my readers.

The foregoing remarks, in ſo far as they relate to the poſſibility of aſſiſting our reaſoning and inventive powers, by new inſtrumental aids, may perhaps appear to be founded too much upon theory; but this objection cannot be made to the reaſonings I have offered on the importance of the ſtudy of met-

thod.—To the juſtneſs of theſe, the whole hiſtory of ſcience bears teſtimony; but more eſpecially the hiſtories of Phyſics and of pure Geometry; which afford ſo remarkable an illuſtration of the general doctrine, as can ſcarcely fail to be ſatisfactory, even to thoſe who are the moſt diſpoſed to doubt the efficacy of art in directing the exertions of genius.

With reſpect to the former, it is ſufficient to mention the wonderful effects which the writings of Lord Bacon have produced, in accelerating its progreſs. The philoſophers, who flouriſhed before his time, were, undoubtedly, not inferior to their ſucceſſors, either in genius or induſtry: but their plan of inveſtigation was erroneous; and their labours have produced only a chaos of fictions and abſurdities. The illuſtrations which his works contain of the method induction, general as the terms are, in which they are expreſſed, have gradually turned the attention of the moderns to the rules of philoſophiſing; and have led the way to thoſe important and ſublime diſcoveries in phyſics, which reflect ſo much honor on the preſent age.

The rules of philoſophiſing, however, even in phyſics, have never yet been laid down with a ſufficient degree of preciſion, minuteneſs, or method; nor have they ever been ſtated and illuſtrated in ſo clear and popular a manner, as to render them intelligible to the generality of readers. The truth, perhaps, is; that the greater part of phyſical inquirers have derived what knowledge of them they poſſeſs, rather from an attention to the excellent models of inveſtigation, which the writings of Newton exhibit, than from any of the ſpeculations of Lord Bacon, or his commentators: and, indeed, ſuch is the incapacity of moſt people for abſtract reaſoning, that I am inclined to think, even if the rules of inquiry were delivered in a perfectly complete and unexceptionable form, it might ſtill be expedient to teach them

to the majority of ſtudents, rather by examples, than in the form of general principles. But it does not therefore follow, that an attempt to illuſtrate and to methodize theſe rules, would be uſeleſs; for it muſt be remembered, that, although an original and inventive genius, like that of Newton, be ſufficient to eſtabliſh a ſtandard for the imitation of his age, yet that the genius of Newton himſelf was encouraged and led by the light of Bacon's philoſophy.

The uſe which the ancient Greek geometers made of their *analyſis*, affords an additional illuſtration of the utility of method in guiding ſcientific invention. To facilitate the ſtudy of this ſpecies of inveſtigation, they wrote no leſs than thirty-three preparatory books; and they conſidered an addreſs, in the practice of it, (or, as Marinus calls it, a *powerful reſolution*) as of much more value, than an extenſive acquaintance with the principles of the ſcience.* Indeed, it is well known, to every one who is at all converſant with geometrical inveſtigations, that although it may be poſſible for a perſon, without the aſſiſtance of the method of analyſis, to ſtumble accidentally on a ſolution, or on a demonſtration; yet it is impoſſible for him to poſſeſs a juſt confidence in his own powers, or to carry on a regular plan of invention and diſcovery. It is well known, too, that an acquaintance with this method brings geometers much more nearly upon a level with each other, than they would be otherwiſe: not that it is poſſible, by any rules, to ſupercede, entirely, ingenuity and addreſs; but, becauſe, in conſequence of the uniformity of the plan on which the method proceeds experience communicates a certain dexterity in the uſe of it; which muſt in time give to a very ordinary degree of ſagacity, a ſuperiority, on the

* Μειζον εστι το δυναμιν αναλυτικην κτησασθαι, της παλλας αποδειξις την επι μερους εχειν.

whole, to the greateſt natural ingenuity, unaſſiſted by rule.*

To theſe obſervations, I believe I may add, that after all that was done by the Greek philoſophers to facilitate mathematical invention, many rules ſtill remain to be ſuggeſted, which might be of important uſe, even in pure geometry. A variety of ſuch occur to every experienced mathematician, in the courſe of his inquiries, although, perhaps, he may not be at the trouble to ſtate them to himſelf in words; and it would plainly have ſaved him much expence of time and thought, beſides enabling him to conduct his reſearches on a more regular plan, if he had been tanght them ſyſtematically at the commencement of his ſtudies. The more varied, abſtruſe and general inveſtigations of the moderns, ſtand in need in a much greater degree, of the guidance of philoſophical principles; not only for enabling us to conduct, with ſkill, our particular reſearches, but for directing us to the different methods of reaſoning, to which we ought to have recourſe on different occaſions. A collection of ſuch rules would form, what might be called with propriety, the logic of mathematics; and would probably contribute greatly to the advancement of all thoſe branches of knowl-

* "Mathematica multi ſciunt, matheſin pauci. Aliud eſt enim noſſe propoſitiones aliquot, et nonnullas ex iis obvias elicere, caſu potius quam certa aliqua diſcurrendi norma, aliud ſcientæ ipſius naturam ac indolem perſpectam habere, in ejus ſe adyta penetrare, et ab univerſalibus inſtructum eſſe præceptis, quibus theoremata ac problemata innumera excogitandi, eademque demonſtrandi facilitas comparetur. Ut enim pictorum vulgus prototypon ſæpe ſæpius exprimendo, quendam pingendi uſum, nullam vero pictoriæ artis quam optica ſuggerit ſcientiam adquirit, ita multi, lectis Euclidis et aliorum geometrarum libris, eorum imitatione fingere propoſitiones aliquas ac demonſtrare ſolent, ipſam tamen ſecretiſſimam difficiliorum theorematum ac problematum ſolvendi methodum prorſus ignorant."

Joannis de la Faille Theoremata de Centro Gravitatis, in præfat.—Antwerpiæ, 1632.

ledge, to which mathematical learning is subservient.

The observations which have been now made, on the importance of method in conducting physical and mathematical researches, particularly those which relate to the last of these subjects, will not apply literally to our inquiries in metaphysics, morals or politics; because in these sciences, our reasonings always consist of a comparatively small number of intermediate steps; and the obstacles which retard our progress, do not as in mathematics, arise from the difficulty of finding media of comparison among our ideas. Not, that these obstacles are less real, or more easily surmounted: on the contrary, it seems to require a still rarer combination of talents to surmount them; for how small is the number of individuals, who are qualified to think justly on metaphysical, moral, or political subjects, in comparison of those who may be trained by practice to follow the longest processes of mathematical reasoning. From what these obstacles arise, I shall not inquire particularly at present. Some of the more important of them may be referred to the imperfections of language; to the difficulty of annexing precise and steady ideas to our words; to the difficulty, in some cases, of conceiving the subjects of our reasoning; and in others, of discovering, and keeping in view, all the various circumstances upon which our judgment ought to proceed; and above all, to the prejudices which early impressions and associations, create, to warp our opinions.—To illustrate these sources of error, in the different sciences which are liable to be affected by them, and to point out the most effectual means for guarding against them, would form another very interesting article in a philosophical system of logic.

The method of communicating to others, the principles of the different sciences, has been as much neglected by the writers on logic, as the rules of in-

veſtigation and diſcovery; and yet, there is certainly no undertaking whatever, in which their aſſiſtance is more indiſpenſibly requiſite. The firſt principles of all the ſciences are intimately connected with the philoſophy of the human mind; and it is the province of the logician, to ſtate theſe in ſuch a manner, as to lay a ſolid foundation for the ſuperſtructures which others are to rear.—It is in ſtating ſuch principles, accordingly, that elementary writers are chiefly apt to fail. How unſatisfactory, for example, are the introductory chapters in moſt ſyſtems of natural philoſophy; not in conſequence of any defect of phyſical or of mathematical knowledge in their authors, but in conſequence of a want of attention to the laws of human thought, and to the general rules of juſt reaſoning! The ſame remark may be extended to the form, in which the elementary principles of many of the other ſciences are commonly exhibited; and, if I am not miſtaken, this want of order, among the firſt ideas which they preſent to the mind, is a more powerful obſtacle to the progreſs of knowledge, than is generally imagined.

I ſhall only obſerve farther, with reſpect to the utility of the philoſophy of mind, that as there are ſome arts, in which we not only employ the intellectual faculties as inſtruments, but operate on the mind as a ſubject; ſo, to thoſe individuals who aim at excellence in ſuch purſuits, the ſtudies I have now been recommending are, in a more peculiar manner, intereſting and important. In poetry, in painting, in eloquence, and in all the other fine arts, our ſucceſs depends on the ſkill with which we are able to adapt the efforts of our genius to the human frame; and it is only on a philoſophical analyſis of the mind, that a ſolid foundation can be laid for their farther improvement. Man, too, is the ſubject on which the practical moraliſt and the enlightened ſtateſman have to operate. Of the former it is the profeſſed object to engage the attention of in-

dividuals to their own beſt intereſts; and to allure them to virtue and happineſs, by every conſideration that can influence the underſtanding, the imagination, or the heart. To the latter, is aſſigned the ſublimer office of ſeconding the benevolent intentions of Providence in the adminiſtration of human affairs; to diffuſe as widely and equally as poſſible, among his fellow-citizens, the advantages of the ſocial union; and, by a careful ſtudy of the conſtitution of man, and of the circumſtances in which he is placed, to modify the political order, in ſuch a manner, as may allow free ſcope and operation to thoſe principles of intellectual and moral improvement, which nature has implanted in our ſpecies.

In all theſe caſes, I am very ſenſible, that the utility of ſyſtematical rules has been called in queſtion by philoſophers of note; and that many plauſible arguments in ſupport of their opinion, may be derived from the ſmall number of individuals who have been regularly trained to eminence in the arts, in compariſon of thoſe who have been guided merely by untutored genius, and the example of their predeceſſors. I know, too, that it may be urged with truth, that rules have, in ſome caſes, done more harm than good: and have miſled, inſtead of directing the natural exertions of the mind. But, in all ſuch inſtances, in which philoſophical principles have failed in producing their intended effect, I will venture to aſſert, that they have done ſo, either in conſequence of errors, which were accidentally blended with them; or, in conſequence of their poſſeſſing only that ſlight and partial influence over the genius, which enabled them to derange its previouſly acquired habits; without regulating its operations, upon a ſyſtematical plan with ſteadineſs and efficacy. In all the arts of life, whether trifling or important, there is a certain degree of ſkill, which may be attained by our untutored powers, aided by imitation; and this ſkill, inſtead of being perfected by rules, may, by means

of them be diminished or destroyed; if these rules are partially and imperfectly apprehended; or even if they are not so familiarized to the understanding, as to influence its exertions uniformly and habitually. In the case of a musical performer, who has learned his art merely by the ear, the first effects of systematical instruction, are, I believe always unfavorable. The effect is the same, of the rules of elocution, when first communicated to one who has attained, by his natural taste and good sense, a tolerable propriety in the art of reading. But it does not follow from this, that, in either of these arts, rules are useless. It only follows, that, in order to unite ease and grace with correctness, and to preserve the felicities of original genius, amidst those restraints which may give them an useful direction, it is necessary that the acquisitions of education should, by long and early habits, be rendered in some measure, a second nature.—The same observations will be found to apply, with very slight alterations, to arts of more serious importance.—In the art of legislation, for example, there is a certain degree of skill, which may be acquired merely from the routine of business; and when once a politician has been formed, in this manner, among the details of office, a partial study of general principles, will be much more likely to lead him astray, than to enlighten his conduct. But there is nevertheless a science of legislation, which the details of office, and the intrigues of popular assemblies, will never communicate; a science, of which the principles must be sought for in the constitution of human nature, and in the general laws which regulate the course of human affairs; and which, if ever, in consequence of the progress of reason, philosophy should be enabled to assume that ascendant in the government of the world which has hitherto been maintained by accident, combined with the passions and caprices of a few leading individuals, may, perhaps, produce

more pefect and happy forms of ſociety, than have yet been realized in the hiſtory of mankind.

I have thus endeavoured to point out, and illuſtrate a few of the moſt important purpoſes to which the philoſophy of the human mind is ſubſervient. It will not, however, I flatter myſelf, be ſuppoſed by any of my readers, that I mean to attempt a ſyſtematical work, on all, or any of the ſubjects I have now mentioned; the moſt limited of which, would furniſh matter for many volumes. What I have aimed at, has been, to give, in the firſt place, as diſtinct and complete an analyſis as I could, of the principles, both intellectual and active, of our nature; and, in the ſecond place, to illuſtrate, as I proceed, the application of theſe general laws of the human conſtitution, to the different claſſes of phenomena which reſult from them. In the ſelection of theſe phenomena, although I have ſometimes been guided chiefly by the curioſity of the moment, or the accidental courſe of my own ſtudies; yet, I have had it in view, to vary, as far as poſſible, the nature of my ſpeculations, in order to ſhew how numerous and different the applications are, of which this philoſophy is ſuſceptible. It will not, therefore, I hope, be objected to me, that I have been guilty of a blameable violation of unity in the plan of my work, till it be conſidered how far ſuch a violation was uſeful for accompliſhing the purpoſes for which I write. One ſpecies of unity, I am willing to believe, an attentive reader will be able to trace in it; I mean, that uniformity of thought and deſign, "which" (as Butler well remarks) "we may always expect to meet "with in the compoſitions of the ſame author, when "he writes with ſimplicity, and in earneſt."

ELEMENTS
OF THE
PHILOSOPHY
OF THE
HUMAN MIND.

CHAPTER FIRST.

OF THE POWERS OF EXTERNAL PERCEPTION.

SECTION I.

Of the Theories which have been formed by Philoſophers to explain the Manner in which the MIND *perceives external Objects.*

AMONG the various phenomena which the human mind preſents to our view, there is none more calculated to excite our curioſity and our wonder than the communication which is caried on between the ſentient, thinking, and active principle within us, and the material objects with which we are ſurrounded. How little ſoever the bulk of mankind may be diſpoſed to attend to ſuch inquiries, there is ſcarcely a perſon to be found, who has not occaſionally turned his thoughts to that myſteious influence. which the will poſſeſſes over the members of the body ; and thoſe powers of perception, which ſeem to inform us, by a ſort of inſpiration, of the various changes which take place in the external univerſe. Of thoſe who receive the ad-

vantages of a liberal education, there are, perhaps, few, who paſs the period of childhood, without feeling the curioſity excited by this incomprehenſible communication between mind and matter. For my own part, at leaſt I cannot recollect the date of my earlieſt ſpeculations on the ſubject.

It is to the phenomena of perception alone, that I am to confine myſelf in the following eſſay; and even with reſpect to theſe, all I propoſe, is to offer a few general remarks on ſuch of the common miſtakes concerning them, as may be moſt likely to miſlead us in our future inquiries. Such of my readers as wiſh to conſider them more in detail, will find ample ſatisfaction in the writings of Dr. Reid.

In conſidering the phenomena of perception, it is natural to ſuppoſe, that the attention of philoſophers would be directed, in the firſt inſtance, to the ſenſe of ſeeing. The variety of information and of enjoyment we receive by it; the rapidity with which this information and enjoyment are conveyed to us; and above all, the intercourſe it enables us to maintain with the more diſtant part of the univerſe, cannot fail to give it, even in the apprehenſion of the moſt careleſs obſerver, a pre-eminence over all our other perſpective faculties.—Hence it is, that the various theories, which have been formed to explain the operations of our ſenſes, have a more immediate reference to that of ſeeing; and that the greater part of the metaphyſical language, concerning perception in general, appears evidently, from its etymology, to have been ſuggeſted by the phenomena of viſion. Even when applied to this ſenſe, indeed, it can at moſt amuſe the fancy, without conveying any preciſe knowledge; but, when applied to the other ſenſes, it is altogether abſurd and unintelligible.

It would be tedious and uſeleſs, to conſider particularly, the different hypotheſes which have been advanced upon this ſubject. To all of them, I ap-

prehend, the two following remarks will be found applicable; Firſt, that, in the formation of them, their authors have been influenced by ſome general maxims of philoſophiſing, borrowed from phyſics; and Secondly, that they have been influenced by an indiſtinct, but deep rooted, conviction, of the immateriality of the ſoul; which, although not preciſe enough to point out to them the abſurdity of attempting to illuſtrate its operations by the analogy of matter, was yet ſufficiently ſtrong to induce them to keep the abſurdity of their theories as far as poſſible out of view, by alluſions to thoſe phyſical facts, in which the diſtinctive properties of matter are the leaſt groſsly and palpably expoſed to our obſervation. To the former of theſe circumſtances is to be aſcribed, the general principle, upon which all the known theories of perception proceed; that, in order to explain the intercourſe between the mind and diſtant objects, it is neceſſary to ſuppoſe the exiſtence of ſomething intermediate, by which its perceptions are produced; to the latter, the various metaphorical expreſſions of *ideas*, *ſpecies*, *forms*, *ſhadows*, *fantaſms*, *images*; which while they amuſed the fancy with ſome remote analogies to the objects of our ſenſes, did not directly revolt our reaſon, by preſenting to us any of the tangible qualities of body.

"It was the doctrine of Ariſtotle," (ſays Dr. Reid,) "that, as our ſenſes cannot receive exter-
"nal material objects themſelves, they receive their
"ſpecies; that is, their images or forms, without
"the matter; as wax receives the form of the ſeal,
"without any of the matter of it. Theſe images
"or forms, impreſſed upon the ſenſes, are called
"*ſenſible ſpecies*: and are the objects only of the
"ſenſitive part of the mind: but by various, in-
"ternal powers, they are retained, refined, and
"ſpiritualized, ſo as to become objects of memory
"and imagination; and, at laſt, of pure intellec-

" tion. When they are objects of memory and im-
" agination, they get the name of *phantasms*. When,
" by farther refinement, and being stripped of their
" particularities, they become objects of science,
" they are called *intelligible species*: so that every
" immediate object, whether of sense, of memory,
" of imagination, or of reasoning, must be some
" phantasm, or species, in the mind itself.

" The followers of Aristotle, especially the school-
" men, made great additions to this theory; which
" the author himself mentions very briefly, and
" with an appearance of reserve. They entered
" into large disquisitions with regard to the sensi-
" ble species, what kind of things they are; how
" they are sent forth by the object, and enter by
" the organs of the senses; how they are preserved,
" and refined by various agents, called internal
" senses, concerning the number and offices of
" which they had many controversies."*

The Platonists, too, although they denied the great doctrine of the Peripatetics, that all the objects of human understanding enter at first by the senses; and maintained, that there exist eternal and immutable ideas, which were prior to the objects of sense, and about which all science was employed; yet appear to have agreed with them in their notions concerning the mode in which external objects are perceived. This Dr. Reid infers partly from the silence of Aristotle about any difference between himself and his master upon this point; and partly from a passage in the seventh book of Plato's Republic; in which he compares the process of the mind in perception, to that of a person in a cave, who sees not external objects themselves, but only their shadows.†

" Two thousand years after Plato," (continues Dr. Reid,) " Mr. Locke, who studied the opera-

* Essays on the intellectual Powers of Man.
† Essays on the intellectual Powers of Man.

"tions of the human mind so much, and with so "great success, represents our manner of perceiv- "ing external objects, by a similitude very much "resembling that of the cave.—"Methinks," says he, "the understanding is not much unlike a closet "wholly shut from light, with only some little open- "ing left, to let in external visible resemblances or "ideas of things without. Would the pictures "coming into such a dark room but stay there, and "lie so orderly as to be found upon occasion, it "would very much resemble the understanding of "a man, in reference to all objects of sight, and the "ideas of them."*

"Plato's subterranean cave, and Mr. Lock's dark "closet, may be applied with ease to all the systems "of perception that have been invented: for they "all suppose, that we perceive not external objects "immediately; and that the immediate objects of "perception, are only certain shadows of the ex- "ternal objects. Those shadows, or images, which "we immediately perceive, were by the ancients "called *species*, *forms*, *phantasms*. Since the time of "Des Cartes, they have commonly been called "*ideas*;† and by Mr. Hume, *impressions*. But all "philosophers, from Plato to Mr. Hume, agree in "this, that we do not perceive external objects im- "mediately; and that the immediate object of per- "ception must be some image present to the mind." "On the whole, Dr. Reid remarks, "that in their "sentiments concerning perception, there appears "an uniformity, which rarely occurs upon subjects "of so abstruse a nature."‡

The very short and imperfect review we have now taken, of the common theories of perception, is almost sufficient, without any commentary, to

* Locke on Human Understanding, book ii. chap. xi. § 17.

† See Note [B.]

‡ Reid, p. 116, 117.

eſtabliſh the truth of the two general obſervations formerly made; for they all evidently proceed on a ſuppoſition, ſuggeſted by the phenomena of phyſics, that there muſt of neceſſity exiſt ſome medium of communication between the objects of perception and the precipient mind; and they all indicate a ſecret conviction in their authors, of the eſſential diſtinction between mind and matter; which, although not rendered, by reflection, ſufficiently preciſe and ſatisfactory, to ſhew them the abſurdity of attempting to explain the mode of their communication; had yet ſuch a degree of influence on their ſpeculations, as to induce them to exhibit their ſuppoſed medium under as myſterious and ambiguous a form as poſſible, in order that it might remain doubtful, to which of the two predicaments, of body or mind, they meant that it ſhould be referred. By refining away the groſſer qualities of matter; and by alluſions to ſome of the moſt aerial and magical appearances it aſſumes, they endeavoured, as it were, to ſpiritualize the nature of their medium; while, at the ſame time, all their language concerning it, implied ſuch a reference to matter, as was neceſſary for furniſhing a plauſible foundation, for applying to it the received maxims of natural philoſophy.

Another obſervation, too, which was formerly hinted at, is confirmed by the ſame hiſtorical review; that, in the order of inquiry, the phenomena of viſion had firſt engaged the attention of philoſophers; and had ſuggeſted to them the greater part of their language, with reſpect to perception in general; and that, in conſequence of this circumſtance, the common modes of expreſſion on the ſubject, unphiloſophical and fanciful at beſt, even when applied to the ſenſe of ſeeing, are, in the caſe of all the other ſenſes obviouſly, unintelligible, and ſelf contradictory.—"As to objects of ſight," ſays Dr. Reid, "I underſtand what is meant by an image of their figure in

" the brain: but how ſhall we conceive an image of " their colour, where there is abſolute darkneſs? " And, as to all other objects of ſenſe, except fig- " ure and color, I am unable to conceive what is " meant by an image of them. Let any man ſay, " what he means by an image of heat and cold, an " image of hardneſs or ſoftneſs, an image of ſound, " or ſmell or taſte. The word *image*, when applied " to theſe objects of ſenſe, has abſolutely no mean- " ing."—This palpable imperfection in the ideal theory has plainly taken riſe from the natural order in which the phenomena of perception preſent themſelves to the curioſity.

The miſtakes, which have been ſo long current in the world, about this part of the human conſtitution, will, I flatter myſelf, juſtify me for proſecuting the ſubject a little farther; in particular, for illuſtrating, at ſome length, the firſt of the two general remarks already referred to. This ſpeculation I enter upon the more willingly, that it affords me an opportunity of ſtating ſome important principles with reſpect to the object, and the limits, of philoſophical inquiry; to which I ſhall frequently have occaſion to refer, in the courſe of the following diſquiſitions.

SECTION II.

Of certain natural Prejudices, which ſeem to have given riſe to the common Theories of Perception.

IT ſeems now to be pretty generally agreed among philoſophers, that there is no inſtance, in which we are able to perceive a neceſſary connexion between two ſucceſſive events; or to comprehend in what manner one proceeds from the other, as its cauſe. From experience, indeed, we learn, that there are many events, which are conſtantly conjoined, ſo that the one invariably follows the other: but it is

poſſible, for any thing we know to the contrary, that this connexion, though a conſtant one, as far as our obſervation has reached, may not be a neceſſary connexion; nay, it is poſſible, that there may be no neceſſary connexions among any of the phenomena we ſee: and if there are any ſuch connexions exiſting, we may reſt aſſured that we ſhall never be able to diſcover them.*

I ſhall endeavour to ſhew, in another part of this work, that the doctrine I have now ſtated, does not lead to thoſe ſceptical concluſions, concerning the exiſtence of a Firſt Cauſe, which an author of great ingenuity has attempted to deduce from it.—At preſent, it is ſufficient for my purpoſe to remark, that the word *cauſe* is uſed, both by philoſophers and the vulgar, in two ſenſes which are widely different. When it is ſaid, that every change in nature indicates the operation of a cauſe, the word cauſe expreſſes ſomething which is ſuppoſed to be neceſſarily connected with the change; and without which it could not have happened. This may be called the *metaphyſical* meaning of the word; and ſuch cauſes may be called *metaphyſical* or *efficient cauſes*.—In natural philoſophy, however, when we ſpeak of one thing being the cauſe of another, all that we mean is, that the two are conſtantly conjoined; ſo that, when we ſee the one, we may expect the other. Theſe conjunctions we learn from experience alone; and without an acquaintance with them, we could not accommodate our conduct to the eſtabliſhed courſe of nature.—The cauſes which are the objects of our inveſtigation, in natural philoſophy may, for the ſake of diſtinction, be called *phyſical cauſes*.

I am very ready to acknowledge, that this doctrine concerning the objects of natural philoſophy is not altogether agreeable to popular prejudices. When a man unaccuſtomed to metaphyſical ſpeculations, is told, for the firſt time, that the ſcience of

* See note [C.]

phyſics, gives us no information concerning the efficient cauſes of the phenomena about which it is employed, he feels ſome degree of ſurprize and mortification. The natural bias of the mind, is ſurely to conceive phyſical events as ſomehow linked together; and material ſubſtances, as poſſeſſed of certain powers and virtues, which fit them to produce particular effects. That we have no reaſon to believe this to be the caſe, has, been ſhewn in a very ſatisfactory manner by Mr. Hume, and by other writers; and muſt, indeed, appear evident to every perſon, on a moment's reflection. It is a curious queſtion, what gives riſe to the prejudice?

In ſtating the argument for the exiſtence of the Deity, ſeveral modern philoſophers have been at pains to illuſtrate that law of our nature which leads us to refer every change we perceive in the univerſe to the operation of an efficient cauſe.*—This reference is not the reſult of reaſoning, but neceſſarily accompanies the perception; ſo as to render it impoſſible for us to ſee the change, without feeling the conviction of the operation of ſome cauſe, by which it was produced; much in the ſame manner in which we find it to be impoſſible to conceive a ſenſation, without being impreſſed with the belief of the exiſtence of a ſentient being. Hence, I apprehend, it is, that when we ſee two events conſtantly conjoined, we are led to aſſociate the idea of cauſation, or efficiency, with the former, and to refer to it that power or energy by which the change was produced; in conſequence of which aſſociation, we come to conſider philoſophy as the knowledge of efficient cauſes; and loſe ſight of the operation of mind, in producing the phenomena of nature.—It is by an aſſociation ſomewhat ſimilar, that we connect our ſenſations of colour, with the primary qualities of

* See, in particular, Dr. Reid's Eſſays on the intellectual Powers of Man.

body. A moment's reflection muſt ſatisfy any one that the ſenſation of colour can only reſide in a mind; and yet our natural bias is ſurely to connect colour with extenſion and figure, and to conceive *white*, *blue*, and *yellow*, as ſomething ſpread over the ſurfaces of bodies. In the ſame way, we are led to aſſociate with inanimate matter, the ideas of *power*, *force*, *energy*, and *cauſation*; which are all attributes of mind, and can exiſt in a mind only.

This bias of our nature is ſtrengthened by another aſſociation. Our language, with reſpect to cauſe and effect, is borrowed by analogy from material objects. Some of theſe we ſee ſcattered about us, without any connection between them; ſo that one of them may be removed from its place, without diſturbing the reſt. We can, however, by means of ſome material *vinculum*, connect two or more objects together; ſo that whenever the one is moved, the others ſhall follow. In like manner, we ſee ſome events, which occaſionally follow one another, and which are occaſionally disjoined: we ſee others, where the ſucceſſion is conſtant and invariable. The former we conceive to be analogous to objects which are looſe, and unconnected with each other; and whoſe contiguity in place, is owing merely to accidental poſition. The others to objects, which are tied together by a material vinculum. Hence we transfer to ſuch events, the ſame language which we apply to connected objects. We ſpeak of a connexion between two events, and of a chain of cauſes and effects.*

That this language is merely analogical, and that we know nothing of phyſical events, but the laws which regulate their ſucceſſion, muſt, I think, appear very obvious to every perſon who takes the trouble to reflect on the ſubject; and yet it is certain, that it has miſled the greater part of philoſophers; and has had a ſurpriſing influence on the ſyſtems,

* See Note, [D.]

which they have formed in very different departments of ſcience.

A few remarks on ſome of the miſtaken concluſions to which the vulgar notions concerning the connexions among phyſical events, have given riſe in natural philoſophy, will illuſtrate clearly the origin of the common theories of perception; and will, at the ſame time, ſatisfy the reader, with reſpect to the train of thought which ſuggeſted the foregoing obſervations.

The maxim that nothing can act but where it is, and when it is, has always been admitted, with reſpect to metaphyſical or efficient cauſes. "Whatever objects" (ſays Mr. Hume) "are conſidered as "cauſes or effects, are contiguous; and nothing can "operate in a time or place, which is ever ſo little "removed from thoſe of its exiſtence." "We may "therefore" (he adds) "conſider the relation of "contiguity, as eſſential to that of cauſation."—But although this maxim ſhould be admitted, with reſpect to cauſes which are efficient, and which, as ſuch, are neceſſarily connected with their effects; there is ſurely no good reaſon for extending it to phyſical cauſes, of which we know nothing, but that they are the conſtant forerunners and ſigns of certain natural events. It may, indeed, be improper, according to this doctrine, to retain the expreſſions, *cauſe* and *effect*, in natural philoſophy; but, as long as the preſent language upon the ſubject continues in uſe, the propriety of its application, in any particular inſtance, does not depend on the contiguity of the two events in place or time, but ſolely on this queſtion, whether the one event be the conſtant and invariable forerunner of the other, ſo that it may be conſidered as its infallible ſign?—Notwithſtanding, however, the evidence of this concluſion, philoſophers have in general proceeded upon a contrary ſuppoſition; and have diſcovered an unwillingneſs, even in phyſics, to call one event the cauſe of anoth-

er, if the ſmalleſt interval of ſpace or time exiſted between them. In the caſe of motion, communicated by impulſe, they have no ſcruple to call the impulſe the cauſe of the motion; but they will not admit that one body can be the cauſe of motion in another, placed at a diſtance from it, unleſs a connexion is carried on between them, by means of ſome intervening medium.

I flatter myſelf, it is unneceſſary for me, after what has already been ſaid, to employ any arguments to prove, that the communication of motion by impulſe, is as unaccountable as any other phenomenon in nature. Thoſe philoſophers who have attended at all to the ſubject; even they who have been the leaſt ſceptical with reſpect to cauſe and effect, and who have admitted a neceſſary connexion among phyſical events, have been forced to acknowledge, that they could not diſcover any neceſſary connexion between impulſe and motion. Hence, ſome of them have been led to conclude, that the impulſe only rouſes the activity of the body, and that the ſubſequent motion is the effect of this activity, conſtantly exerted. "Motion," ſays one writer, "is action; and a continued motion implies a continued action." "The impulſe "is only the cauſe of the beginning of the motion: "its continuance muſt be the effect of ſome "other cauſe, which continues to act as long as "the body continues to move." The attempt which another writer of great learning has made, to revive the ancient theory of mind, has ariſen from a ſimilar view of the ſubject before us. He could diſcover no neceſſary connexion between impulſe and motion; and concluded, that the impulſe was only the *occaſion* of the motion, the beginning and continuance of which, he aſcribed to the continued agency of the mind with which the body is animated.

Although, however, it be obvious, on a moment's

conſideration, that we are as ignorant of the connexion between impulſe and motion, as of the connexion between fire and any of the effects we ſee it produce, philoſophers, in every age, ſeem to have conſidered the production of motion by impulſe, as almoſt the only phyſical fact which ſtood in need of no explanation. When we ſee one body attract another at a diſtance, our curioſity is rouſed, and we inquire how the connexion is carried on between them. But when we ſee a body begin to move in conſequence of an impulſe which another has given it, we inquire no farther: on the contrary, we think a fact ſufficiently accounted for, if it can be ſhewn to be a caſe of impulſe. This diſtinction, between motion produced by impulſe and the other phenomena of nature, we are led, in a great meaſure, to make, by confounding together efficient and phyſical cauſes; and by applying to the latter, maxims which have properly a reference only to the former.—Another circumſtance, likewiſe, has probably conſiderable influence: that, as it is by means of impulſe alone, that we ourſelves have a power of moving external objects; this fact is more familiar to us from our infancy than any other; and ſtrikes us as a fact which is neceſſary, and which could not have happened otherwiſe. Some writers have even gone ſo far as to pretend that, although the experiment had never been made, the communication of motion by impulſe, might have been predicted by reaſoning *a priori*.*

From the following paſſage, in one of Sir Iſaac Newton's letters to Dr. Bently, it appears, that he ſuppoſed the communication of motion by impulſe, to be a phenomenon much more explicable, than that a connexion ſhould ſubſiſt between two bodies placed at a diſtance from each other, without any

* See an anſwer to Lord Kaim's Eſſay on Motion; by John Stewart, M. D.

intervening medium. "It is inconceivable," says he, "that inanimate brute matter should, without "the mediation of something else which is not ma- "terial, operate upon, and affect other matters "without mutual contact; as it must do, if gravi- "tation, in the sense of Epicurus, be essential and "inherent in it. And this is one reason why I de- "sired that you would not ascribe innate gravity "to me. That gravity should be innate, inherent, "and essential to matter, so that one body may act "on another, through a vacuum, without the me- "diation of any thing else, by and through which "their action and force may be conveyed from one "to another, is to me so great an absurdity, that I "believe no man who has, in philosophical mat- "ters, a competent faculty of thinking, can ever "fall into it."

With this passage I so far agree, as to allow that it is impossible to conceive, in what manner one body acts on another at a distance, through a vacuum. But I cannot admit that it removes the difficulty to suppose, that the two bodies are in actual contact. That one body may be the efficient cause of the motion of another body placed at a distance from it, I do by no means assert? but only that we have as good reason to believe that this may be possible, as to believe that any natural event is the efficient cause of another.

I have been led into this very long disquisition, concerning efficient and physical causes, in order to point out the origin of the common theories of perception; all of which appear to me, to have taken rise from the same prejudice, which I have already remarked to have had so extensive an influence upon the speculations of natural philosophers.

That, in the case of the perception of distant objects, we are naturally inclined to suspect, either something to be emitted from the object to the organ of sense, or some medium to intervene betwen

the object and organ, by means of which the former may communicate an impulse to the latter; appears from the common modes of expression on the subject, which are to be found in all languages. In our own, for example, we frequently hear the vulgar speak of light striking the eye; not in consequence of any philosophical theory they have been taught, but of their own crude and undirected speculations. Perhaps there are few men among those who have attended at all to the history of their own thoughts, who will not recollect the influence of these ideas, at a period of life long prior to the date of their philosophical studies. Nothing indeed can be conceived more simple and natural than their origin. When an object is placed in a certain situation with respect to a particular organ of the body, a perception arises in the mind: when the object is removed, the perception ceases. *Hence we are led to apprehend some connexion between the object and the perception; and as we are accustomed to believe, that matter produces its effects by impulse, we conclude, that there must be some material medium intervening between the object and organ, by means of which the impulse is communicated from the one to the other.—That this is really the case, I do not mean to dispute. I think, however it is evident, that the existence of such a medium does not in any case appear *a priori*; and yet the natural prejudices of men have given rise to a universal belief of it, long before they were able to produce any good arguments in support of their opinion.

* Tum perrò varios rerum sentimus odores,
Nec tamen ad nareis venienteis cernimus unquam:
Nec calidos æstus tuimur, nec frigora quimus
Usurpare oculis, nec voces cernere suemus;
Quæ tamen omnia corporeâ constare necesse 'st
Naturâ; quoniam sensus impellere possunt.

LUCRET. lib. i. p. 299.

Nor is it only to account for the connexion between the object and the organ of ſenſe, that philoſophers have had recourſe to the theory of impulſe. They have imagined that the impreſſion on the organ of ſenſe is communicated to the mind, in a ſimilar manner. As one body produces a change in the ſtate of another by impulſe, ſo it has been ſuppoſed, that the external object produces perception, (which is a change in the ſtate of the mind) firſt, by ſome material impreſſion made on the organ of ſenſe; and ſecondly, by ſome material impreſſion communicated from the organ to the mind along the nerves and brain. Theſe ſuppoſitions, indeed, as I had occaſion already to hint, were, in the ancient theories of perception, rather implied than expreſſed; but by modern philoſophers, they have been ſtated in the form of explicit propoſitions. "As to the manner," ſays Mr. Locke, "in which bodies produce ideas "in us; it is manifeſtly by impulſe, the only way "which we can conceive bodies operate in."* And Sir Iſaac Newton, although he does not ſpeak of an *impulſe* made on the mind, plainly proceeded on the principle, that, as matter can only move matter by impulſe, ſo no connexion could be carried on between matter and mind, unleſs the third were *preſent* (as he expreſſes it) to the matter from which the laſt impreſſion is communicated. "Is not" (ſays he) "the ſenſorium of animals, the place "where the ſentient ſubſtance is preſent; and to "which the ſenſible ſpecies of things are brought, "through the nerves and brain, that there they may "be perceived by the mind preſent in that place?" Dr. Clarke has expreſſed the ſame idea ſtill more confidently, in the following paſſage of one of his letters to Leibnitz. "Without being preſent† to

* Eſſay on Human Underſtanding, book ii. ch. viii. § 11.

† This phraſe of "the ſoul *being preſent* to the images of external objects, has been uſed by many philoſophers, ſince

" the images of the things perceived, the ſoul could " not poſſibly perceive them. A living ſubſtance " can only there perceive, where it is preſent. No- " thing can any more act, or be acted upon, *where* " it is not preſent, than it can *when* it is not." " How body acts upon mind, or mind upon body," (ſays Dr. Porterfield†) " I know not; but this I am " very certain of, that nothing can act, or be acted " upon, where it is not; and therefore, our mind " can never perceive any thing but its own proper " modifications, and the various ſtates of the ſenſo- " rium, to which it is preſent; ſo that it is not the " external ſun or moon, which are in the heavens, " which our mind perceives, but only their image " or repreſentation, impreſſed upon the ſenſorium. " How the ſoul of a ſeeing man ſees theſe images, " or how it ſees thoſe ideas, from ſuch agitations in " the ſenſorium, I know not; but I am ſure it can " never perceive the external bodies themſelves to " which it is not preſent."

the time of Des Cartes; evidently from a deſire to avoid the abſurdity of ſuppoſing, that images of extenſion and figure can exiſt in an unextended mind.

" Quæris," (ſays Des Cartes himſelf, in replying to the objections of one of his antagoniſts) "quomodo exiſtimem in me " ſubjecto inextenſo recipi poſſe ſpeciem, ideamve corporis " quod extenſum eſt. Reſpondeo nullam ſpeciem corpore- " am in mente recipi, ſed puram intellectionem tam rei cor- " poreæ quam incorporeæ fieri abſque ulla ſpecie corporea; " ad imaginationem vero, quæ non niſi de rebus corporeis " eſſe poteſt, opus quidem eſſe ſpecie quæ ſit verum cor- " porus, et *ad quam mens ſe applicet*, ſed non quæ in mente " recipiatur."—It appears, therefore, that this philoſopher ſuppoſed his images, or ideas, to exiſt in the *brain*, and not in the *mind*. Mr. Locke's expreſſions ſometimes imply the one ſuppoſition, and ſometimes the other.

† See his Treatiſe on the Eye, vol. ii. p. 356.

* The ſame train of thinking, which had led theſe philoſophers to ſuppoſe, that external objects are perceived by means of ſpecies proceeding from the object to the mind, or by means of ſome material impreſſion made on the mind by the brain, has ſuggeſted to a late writer a very different theory; that the mind, when it perceives an external object, quits the body, and is preſent to the object of perception. "The mind," (ſays the learned author of Ancient Metaphyſics) "is not where the body is, "when it perceives what is diſtant from the body, "either in time or place, becauſe nothing can act, "but when, and where, it is. Now, the mind acts "when it perceives. The mind, therefore, of ev- "ery animal who has memory or imagination, acts, "and by conſequence exiſts, when and where the "body is not; for it perceives objects diſtant from "the body both in time and place."† Indeed, if we take for granted, that in perception the mind acts upon the object, or the object upon the mind, and, at the ſame time, admit the truth of the maxim, that "nothing can act but where it is," we muſt of neceſſity, conclude, either that objects are perceived in a way ſimilar to what is ſuppoſed in the ideal theory, or that in every act of perception, the ſoul quits the body, and is preſent to the object

* "The ſlighteſt philoſophy" (ſays Mr. Hume) "teaches "us that nothing can ever be preſent to the mind, but an "image, or perception; and that the ſenſes are only the in- "lets, through which theſe images are conveyed; without "being able to produce any immediate intercourſe between "the mind and the object. The table, which we ſee, ſeems "to diminiſh, as we remove farther from it: but the real "table, which exiſts independent of us, ſuffers no alter- "ation: it was therefore nothing but its image which was "preſent to the mind. Theſe" (he adds) "are the obvious "dictates of reaſon."

ESSAY *on the* ACADEMICAL *or* SCEPTICAL PHILOSOPHY.

† Ant. Met. vol. ii. p. 306.

perceived. And accordingly, this alternative is expreſsly ſtated by Malebranche; who differs however, from the writer laſt quoted, in the choice which he makes of his hypotheſis; and even reſts his proof of its truth on the improbability of the other opinion. "I ſuppoſe," ſays he, "that every one will "grant, that we perceive not external objects im- "mediately, and of themſelves. We ſee the ſun, "the ſtars, and an infinity of objects without us; "and it is not at all likely that, upon ſuch occaſions "the ſoul ſallies out of the body, in order to be "preſent to the objects perceived. She ſees them "not, therefore, by themſelves; and the immedi- "ate object of the mind is not the thing perceived, "but ſomething which is intimately united to the "ſoul; and it is that which I call an idea; ſo that "by the word idea, I underſtand nothing elſe here "but that which is neareſt to the mind when we "perceive any object. It ought to be carefully ob- "ſerved, that, in order to the mind's perceiving "any object, it is abſolutely neceſſary that the idea "of that object be actually preſent to it. Of this "it is not poſſible to doubt. The things which the "ſoul perceives, are of two kinds. They are ei- "ther in the ſoul, or they are without the ſoul. "Thoſe that are in the ſoul, are its own thoughts: "that is to ſay, all its different modifications. The "ſoul has no need of ideas for perceiving theſe "things. But with regard to things without the "ſoul we cannot perceive them but by means of "ideas."

To theſe quotations, I ſhall add another, which contains the opinion of Buffon upon the ſubject. As I do not underſtand it ſo completely, as to be able to tranſlate it in a manner intelligible to myſelf, I ſhall tranſcribe it in the words of the author.

"L'ame s'unit intimement à tel objet qu'il lui "plàt, la diſtance, la grandeur, la figure, rien ne

" peut nuire à certe union lorſque l'ame la veut : " elle ſe fait et ſe fait en un inſtant.... la volunté " n'ſt-elle donc qu'un mouvement corporel, et la " contemplation un ſimple attouchment ? Comment " cet attouchment pourroit-il ſe faire ſur un objet " éloigne, ſur un ſujet abſtrait ? Comment pourro- " it-il s'opérer en un inſtant indiviſible ? A-t-on ja- " mais conçu du mouvement, ſans qu'il y êut de " l'eſpace et du tems ? La volunté, ſi c'eſt un mouve- " ment, n'eſt donc pas un mouvement matériel, et " ſi l'union de lame é ſon objet eſt un attouchment, " un contact, cet attouchment ne ſe fait-il pas au " loin ? ce contact n'eſt il pas une pénétration ?"

All theſe theories appear to me to have taken riſe, firſt, from an inattention to the proper object of philoſophy, and an application of the ſame general maxims to phyſical and to efficient cauſes ; and ſecondly, from an apprehenſion, that we underſtand the connexion between impulſe and motion, better than any other phyſical fact. From the detail which I have given, it appears how extenſive an influence this prejudice has had on the inquiries both of natural philoſophers and of metephyſicians.

In the foregoing reaſonings, I have taken for granted, that motion may be produced by impulſe ; and have contented myſelf with aſſerting, that this fact is not more explicable, than the motions which the Newtonians refer to gravitation ; or than the intercourſe which is carried on between the mind and external objects in the caſe of perception. The truth, however, is, that ſome of the ableſt philoſophers in Europe are now ſatisfied, not only that there is no evidence of motion being in any caſe produced by the actual contact of two bodies ; but that very ſtrong proofs may be given, of the abſolute impoſſibility of ſuch a ſuppoſition : and hence they have been led to conclude, that all the effects which are commonly referred to impulſe, ariſe from a power of repulſion, extending to a ſmall and imper-

ceptible diſtance round every element of matter.—If this doctrine ſhall be confirmed by future ſpeculations in phyſics it muſt appear to be a curious circumſtance in the hiſtory of ſcience, that philoſophers have been ſo long occupied in attempting to trace all the phenomena of matter, and even ſome of the phenomena of mind, to a general fact, which upon an accurate examination, is found to have no exiſtence.—I do not make this obſervation with a view to depreciate the labours of theſe philoſophers; for, although the ſyſtem of Boſcovich were completely eſtabliſhed, it would not diminiſh, in the ſmalleſt degree, the value of thoſe phyſical inquiries, which have proceeded on the common hypotheſis, with reſpect to impulſe. The laws which regulate the communication of motion, in the caſe of apparent contact, are the moſt general facts we obſerve among the terreſtial phenomena; and they are, of all phyſical events, thoſe which are the moſt familiar to us, from our earlieſt infancy. It was, therefore, not only natural but proper, that philoſophers ſhould begin their phyſical inquiries, with attempting to refer to theſe, (which are the moſt general laws of nature, expoſed to the examination of our ſenſes,) the particular appearance they wiſhed to explain. And, if ever the theory of Boſcovich ſhould be completely eſtabliſhed, it will have no other effect, than to reſolve theſe laws into ſome principle ſtill more general, without affecting the ſolidity of the common doctrine, ſo far as it goes.

SECTION III.

Of Dr. Reid's Speculation on the Subject of Perception.

IT was chiefly in conſequence of the ſceptical concluſions which Biſhop Berkley and Mr. Hume

had deduced from the ancient theories of perception, that Dr. Reid was led to call them in queſtion; and he appears to me to have ſhewn in the moſt ſatisfactory manner, not only that they are perfectly hypothetical, but that the ſuppoſitions they involve, are abſurd and impoſſible. His reaſonings, on this part of our conſtitution, undoubtedly form the moſt important acceſſion which the philoſophy of the human mind has received ſince the time of Mr. Locke.

But although Dr. Reid has been at much pains to overturn the old ideal ſyſtem, he has not ventured to to ſubſtitute any hypotheſis of his own in its place. And, indeed, he was too well acquainted with the limits which nature has preſcribed to our philoſophical inquiries, to think of indulging his curioſity, in ſuch unprofitable ſpeculations. All therefore, that he is to be underſtood as aiming at, in his inquiries concerning our perceptive powers, is to give a preciſe ſtate of the fact, diveſted of all theoretical expreſſions; in order to prevent philoſophers from impoſing on themſelves any longer, by words without meaning; and to extort from them an acknowledgment, that, with reſpect to the proceſs of nature in perception, they are no leſs ignorant than the vulgar.

According to this view of Dr. Reid's reaſonings, on the ſubject of perception, the purpoſe to which they are ſubſervient may appear to ſome to be of no very conſiderable importance; but the truth is, that one of the moſt valuable effects of genuine philoſophy, is to remind us the limited powers of the human underſtanding; and to revive thoſe natural feelings of wonder and admiration, at the ſpectacle of the univerſe, which are apt to languiſh, in conſequence of long familiarity. The moſt profound diſcoveries which are placed within the reach of our reſearches, inſtead of laying open to our view the ef-

ficient cauſes of natural appearances, lead to a confeſſion of human ignorance; for while they flatter the pride of man, and increaſe his power, by enabling him to trace the ſimple and beautiful laws by which phyſical events are regulated, they call his attention, at the ſame time, to thoſe general and ultimate facts which bound the narrow circle of his knowledge; and which, by evincing to him the operation of powers, whoſe nature muſt forever remain unknown, ſerve to remind him of the inſufficiency of his faculties to penetrate the ſecrets of the univerſe. Wherever we direct our inquiries; whether to the anatomy and phyſiology of animals, to the growth of vegetables, to the chemical attractions and repulſions, or to the motions of the heavenly bodies; we perpetually perceive the effects of powers which cannot belong to matter. To a certain length we are able to proceed; but in every reſearch we meet with a line, which no induſtry nor ingenuity can paſs. It is a line too, which is marked with ſufficient diſtinctneſs; and which no man now thinks of paſſing, who has juſt views of the nature and objects of philoſophy. It forms the ſeparation between that field which falls under the ſurvey of the phyſical inquirer, and that unknown region, of which, though it was neceſſary that we ſhould be aſſured of the exiſtence, in order to lay a foundation for the doctrines of natural theology, it hath not pleaſed the Author of the univerſe to reveal to us the wonders, in this infant ſtate of our being. It was, in fact, chiefly by tracing out this line, that Lord Bacon did ſo much ſervice to ſcience.

Beſide this effect, which is common to all our philoſophical purſuits, of impreſſing the mind with a ſenſe of that myſterious agency, or efficiency, into which general laws muſt be reſolved; they have a tendency, in many caſes, to revive thoſe emotions of wonder and of curioſity, which the appearances of

nature are so admirably fitted to excite; but which they cease to produce, in consequence of long familiarity. In order to counteract the influence of habit in weakening these emotions, it is necessary either to lead the attention to facts which are calculated to strike by their novelty, or to present to the mind familiar appearances in a new light: and such are the necessary and obvious effects of philosophical inquiries; sometimes extending our views to parts of nature which are removed from vulgar observation; and sometimes correcting our first apprehensions with respect to ordinary events.—The communication of motion by impulse, (as I already hinted,) is as unaccountable as any phenomenon we know; and yet, most men are disposed to consider it, as a fact which does not result from will, but from necessity. To such men, it may be useful to direct their attention to the universal law of gravitation; which, although not more wonderful in itself, than the common effects of impulse, is more fitted by its novelty, to awaken their attention, and to excite their curiosity. If the theory of Boscovich should ever be established on a satisfactory foundation, it would have this tendency in a still more remarkable degree, by teaching us that the communication of motion by impulse, (which we are apt to consider as a necessary truth,) has no existence in nature; and that every case in which it appears to our senses to take place, is a phenomenon no less inexplicable, than that principle of attraction which binds together the most remote parts of the universe.

If such, however, be the effects of our philosophical pursuits when successfully conducted, it must be confessed that the tendency of imperfect or erroneous theories is widely different. By a specious solution of insuperable difficulties, they so dazzle and bewilder the understanding, as at once to prevent us from advancing, with steadiness, towards the limit of human knowledge; and from perceiving the ex-

iſtence of a region beyond it, into which philoſophy is not permitted to enter. In ſuch caſes, it is the buſineſs of genuine ſcience to unmaſk the impoſture, and to point out clearly, both to the learned and to the vulgar, what reaſon can, and what ſhe cannot accompliſh. This, I apprehend, has been done, with reſpect to the hiſtory of our perceptions, in the moſt ſatisfactory manner, by Dr. Reid.—When a perſon little accuſtomed to metaphyſical ſpeculations is told, that, in the caſe of volition, there are certain inviſible fluids, propagated from the mind to the organ which is moved; and that, in the caſe of perception, the exiſtence and qualities of the external object are made known to us by means of ſpecies, or phantaſms, or images which are preſent to the mind in the ſenſorium; he is apt to conclude, that the intercourſe between mind and matter is much leſs myſterious than he had ſuppoſed; and, that, although theſe expreſſions may not convey to him any very diſtinct meaning, their import is perfectly underſtood by philoſophers. It is now, I think, pretty generally acknowledged by phyſiologiſts, that the influence of the will over the body, is a myſtery which has never yet been unfolded; but, ſingular as it may appear, Dr. Reid was the firſt perſon who had courage to lay completely aſide all the common hypothetical language concerning perception, and to exhibit the difficulty in all its magnitude, by a plain ſtatement of the fact. To what then, it may be aſked, does this ſtatement amount?—Merely to this; that the mind is ſo formed, that certain impreſſions produced on our organs of ſenſe by external objects, are followed by correſpondent ſenſations; and that theſe ſenſations, (which have no more reſemblance to the qualities of matter, than the words of a language have to the things they denote) are followed by a perception of the exiſtence and qualities of the bodies by which the impreſſions are made; that all the ſteps of this proceſs are equally incomprehenſible;

and that, for any thing we can prove to the contrary, the connexion between the ſenſation and the perception, as well as that between the impreſſion and the ſenſation, may be both arbitrary: that it is therefore by no means impoſſible, that our ſenſations may be merely the occaſions on which the correſpondent perceptions are excited; and that at any rate, the conſideration of theſe ſenſations, which are attributes of mind, can throw no light on the manner in which we acquire our knowledge of the exiſtence and qualities of body. From this view of the ſubject, it follows, that it is external objects themſelves, and not any ſpecies or images of theſe objects, that the mind perceives; and that although by the conſtitution of our nature, certain ſenſations are rendered the conſtant antecedents of our perceptions, yet it is juſt as difficult to explain how our perceptions are obtained by their means, as it would be, upon the ſuppoſition, that the mind, were all at once inſpired with them, without any concomitant ſenſations whatever.

Theſe remarks are general, and apply to all our various perceptions; and they evidently ſtrike at the root of all the common theories upon the ſubject. The laws, however, which regulate theſe perceptions, are different in the caſe of the different ſenſes and form a very curious object of philoſophical inquiry. Thoſe, in particular, which regulate the acquired perceptions of ſight, lead to ſome very intereſting and important ſpeculations; and, I think, have never yet been explained in a manner completely ſatisfactory. To treat of them in detail, does not fall under the plan of this work; but I ſhall have occaſion to make a few remarks on them, in the chapter on Conception.

In oppoſition to what I have here obſerved on the importance of Dr. Reid's ſpeculations concerning our perceptive powers, I am ſenſible it may be urged that they amount merely to a negative diſcovery;

and it is poſſible, that ſome may even be forward to remark, that it was unneceſſary to employ ſo much labour and ingenuity as he has done to overthrow an hypotheſis of which a plain account would have been a ſufficient refutation. To ſuch perſons, I would beg leave to ſuggeſt, that, although, in conſequence of the juſter views in pneumatology, which now begin to prevail, (chiefly, I believe, in conſequence of Dr. Reid's writings) the ideal ſyſtem may appear to many readers unphiloſophical and puerile; yet the caſe was very different when this author entered upon his inquiries; and I may even venture to add, that few poſitive diſcoveries, in the whole hiſtory of ſcience can be mentioned, which found a juſter claim to literary reputation, than to have detected, ſo clearly and unanſwerably, the fallacy of an hypotheſis, which has deſcended to us from the earlieſt ages of philoſophy; and which, in modern times, has not only ſerved to Berkeley and Hume as the baſis of their ſceptical ſyſtems, but was adopted as an indiſputable truth by Locke, by Clarke, and by Newton.

SECTION IV.

Of the origin of our Knowledge.

THE philoſophers who endeavoured to explain the operations of the human mind, by the theory of ideas, and who took for granted, that in every exertion of thought there exiſts in the mind ſome object diſtinct from the thinking ſubſtance, were naturally led to inquire whence theſe ideas derive their origin; in particular, whether they are conveyed to the mind from without by means of the ſenſes, or from part of its original furniture?

With reſpect to this queſtion, the opinions of the ancients were various; but as the influence of theſe opinions on the prevailing ſyſtems of the preſent age is not very conſiderable, it is not neceſſary, for any of the purpoſes I have in view in this work, to conſider them particularly. The moderns, too, have been much divided on the ſubject; ſome holding with Des Cartes, that the mind is furniſhed with certain innate ideas; others, with Mr. Locke, that all our ideas may be traced from ſenſation and reflection; and many, (eſpecially among the later metaphyſicians in France) that they may be all traced from ſenſation alone.

Of theſe theories, that of Mr. Locke, deſerves more particularly our attention; and it has ſerved as the baſis of moſt of the metaphyſical ſyſtems which have appeared ſince his time; and as the difference between it and the theory which derives all our ideas from ſenſation alone, is rather apparent than real.

In order to convey a juſt notion of Mr. Locke's doctrine concerning the origin of our ideas, it is neceſſary to remark, that he refers to ſenſation, all the ideas which we are ſuppoſed to receive by the external ſenſes; our ideas, for example, of colours, of ſounds, of hardneſs, of extenſion, of motion; and, in ſhort, of all the qualities and modes of matter; to reflection, the ideas of our own mental operations which we derive from conſciouſneſs; our ideas, for example, of memory, of imagination, of volition, of pleaſure, and of pain. Theſe two ſources according to him, furniſh us with all our ſimple ideas, and the only power which the mind poſſeſſes over them, is to perform certain operations, in the way of compoſition, abſtraction, generaliſation, &c. on the materials which it thus collects in the courſe of its experience. The laudable deſire of Mr. Locke, to introduce preciſion a perſpicuity into metaphyſical ſpeculations, and his anxiety to guard the mind againſt error in general, naturally prepoſſeſſed him

in favour of a doctrine, which, when compared with thoſe of his predeceſſors, was intelligible and ſimple; and which, by ſuggeſting a method, apparently eaſy and palpable, of anylyſing our knowledge into its elementary principles, ſeemed to furniſh an antidote againſt thoſe prejudices which had been favoured by the hypotheſis of innate ideas. It is now a conſiderable time ſince this fundamental principle of Mr. Locke's ſyſtem began to loſe its authority in England; and the ſceptical concluſions, which it had been employed to ſupport by ſome later writers, furniſhed its opponents with very plauſible arguments againſt it. The late learned Mr. Harris, in particular, frequently mentions this doctrine of Mr. Locke, and always in terms of high indignation. "Mark," (ſays he, in one paſſage,) "the order of things, according to the account of our later metaphyſicians. "Firſt, comes that huge body the ſenſible world. "Then this, and its attributes, beget ſenſible ideas. "Then, out of ſenſible ideas, by a kind of lopping "and pruning, are made ideas intelligible, whether "ſpecific or general. Thus, ſhould they admit that "mind was coeval with body; yet, till body gave "it ideas, and awaked its dormant powers, it could "at beſt have been nothing more than a ſort of "dead capacity; for innate ideas it could not poſſibly have any." And, in another paſſage: "For "my own part, when I read the detail about ſenſation and reflection, and am taught the proceſs at "large how my ideas are all generated, I ſeem to "view the human ſoul, in the light of a crucible, "where truths are produced by a kind of logical "chemiſtry."

If Dr. Reid's reaſonings on the ſubject of ideas be admitted, all theſe ſpeculations with reſpect to their origin fall to the ground; and the queſtion to which they relate, is reduced merely to a queſtion of fact; concerning the occaſions on which the mind is firſt led to form thoſe ſimple notions into which our thoughts may be analyſed, and which

may be conſidered as the principles or elements of human knowledge. With reſpect to many of theſe notions, this inquiry involves no difficulty. No one, for example, can be at a loſs to aſcertain the occaſions on which the notions of colours and ſounds are firſt formed by the mind: for theſe notions are confined to individuals who are poſſeſſed of particular ſenſes, and cannot, by any combination of words, be conveyed to thoſe who never enjoyed the uſe of them. The hiſtory of our notions of extention and figure, (which may be ſuggeſted to the mind by the exerciſe either of ſight or touch,) is not altogether ſo obvious; and accordingly, it has been the ſubject of various controverſies. To trace the origin of theſe, and of our other ſimple notions with reſpect to the qualities of matter; or, in other words, to deſcribe the occaſions on which, by the laws of our nature, they are ſuggeſted to the mind, is one of the leading objects of Dr. Reid's inquiry, in his analyſis of our external ſenſes; in which he carefully avoids every hypotheſis with reſpect to the inexplicable phenomena of perception and of thought, and confines himſelf ſcrupulouſly to a literal ſtatement of facts.—Similar inquiries to theſe, may be propoſed, concerning the occaſions onwhich we form the notions of *time*, of *motion*, of *number*, of *cauſation*, and an infinite variety of others. Thus it has been obſerved by different authors, that eve-ery perception of change ſuggeſts to the mind the notion of a *cauſe*, without which that change could not have happened. Dr. Reid remarks, that, without the faculty of memory, our perceptive powers could never have led us to form the idea of *motion*. I ſhall afterwards ſhew, in the ſequel of this work, that without the ſame faculty of memory, we never could have formed the notion of *time*; and that without the faculty of abſtraction, we could not have formed the notion of *number*.——Such inquiries, with reſpect to the origin of our knowledge, are curious and important;

and if conducted with judgment, they may lead to the moſt certain concluſions; as they aim at nothing more than to aſcertain facts, which, although not obvious to ſuperficial obſervers, may yet be diſcovered by patient inveſtigation.

From the remarks which have been juſt made on our notions of time, of motion, and of number, it is evident, that the inquiry concerning the origin of human knowledge cannot poſſibly be diſcuſſed at the commencement of ſuch a work as this; but that it muſt be reſumed in different parts of it, as thoſe faculties of the mind come under our view, with which the formation of our different ſimple notions is connected.

With reſpect to the general queſtion, Whether all our knowledge may be ultimately traced from our ſenſations? I ſhall only obſerve at preſent, that the opinion we form concerning it, is of much leſs conſequence than is commonly ſuppoſed. That the mind cannot, without the groſſeſt abſurdity, be conſidered in the light of a receptacle which is gradually furniſhed from without, by materials introduced by the channel of the ſenſes; nor in that of a *tabula raſa*, upon which copies or reſemblances of things external are imprinted; I have already ſhewn at ſufficient length. Although, therefore, we ſhould acquieſce in the concluſion, that, without our organs of ſenſe, the mind muſt have remained deſtitute of knowledge, this conceſſion could have no tendency whatever to favor the principles of materialiſm; as it implies nothing more than that the impreſſions made on our ſenſes by external objects, furniſh the occaſions on which the mind, by the laws of its conſtitution, is led to perceive the qualities of the material world, and to exert all the different modifications of thought of which it is capable.

From the very ſlight view of the ſubject, however, which has been already given, it is ſufficient-

ly evident, that this doctrine, which refers the origin of all our knowledge to the occaſions furniſhed by ſenſe, muſt be received with many limitations. That thoſe ideas, which Mr. Locke calls ideas of reflection, (or, in other words, the notions which we form of the ſubjects of our own conſciouſneſs,) are not ſuggeſted to the mind immediately by the ſenſations ariſing from the uſe of our organs of perception, is granted on all hands; and therefore the amount of the doctrine now mentioned, is nothing more than this; that the firſt occaſions on which our various intellectual faculties are exerciſed are furniſhed by the impreſſions made on our organs of ſenſe; and conſequently, that, without theſe impreſſions, it would have been impoſſible for us to arrive at the knowledge of our faculties. Agreeably to this explanation of the doctrine, it may undoubtedly be ſaid with plauſibility, (and, I am inclined to believe, with truth,)that the occaſions on which all our notions are formed, are furniſhed either immediately or ultimately by ſenſe; but, if I am not much miſtaken, this is not the meaning which is commonly annexed to the doctrine, either by its advocates of their opponents. One thing at leaſt is obvious, that, in this ſenſe, it does not lead to thoſe conſequences which have intereſted one party of philoſophers in its defence, and another in its refutation.

There is another very important conſideration which deſerves our attention on this argument: that, even on the ſuppoſition that certain impreſſions on our organs of ſenſe are neceſſary to awaken the mind to a conſciouſneſs of its own exiſtence and to give riſe to the exerciſe of its various faculties; yet all this might have happened, without our having any knowledge of the qualities, or even of the exiſtence of the material world. To facilitate the admiſſion of this propoſition, let us ſuppoſe a being formed in every other reſpect like man; but

poſſeſſed of no ſenſes, excepting thoſe of hearing and ſmelling. I make choice of theſe two ſenſes, becauſe it is obvious, that by the means of them alone, we never could have arrived at the knowledge of the primary qualities of matter, or even of the exiſtence of things external. All that we could poſſibly have inferred from our occaſional ſenſations of ſmell and ſound, would have been, that there exiſted ſome unknown cauſe by which they were produced.

Let us ſuppoſe then a particular ſenſation to be excited in the mind of ſuch a being. The moment this happens, he muſt neceſſarily acquire the knowledge of two facts at once; that of the exiſtence of *the ſenſation*; and that of *his own exiſtence*, as ſentient being. After the ſenſation is at an end, he can *remember* he felt it; he can *conceive* that he feels it again. If he has felt a variety of different ſenſations, he can compare them together in reſpect of the pleaſure or the pain they have afforded him; and will naturally *deſire* the return of the agreeable ſenſations, and be *afraid* of the return of thoſe which were painful. If the ſenſation of ſmell and ſound are both excited in his mind at the ſame time, he can *attend* to either of them he chuſes, and withdraw his attention from the other: or he can withdraw his *attention* from both, and fix it on ſome ſenſation he has felt formerly. In this manner, he might be led, merely by ſenſations exiſting in his mind, and conveying to him no information concerning matter, to exerciſe many of his moſt important faculties; and amidſt all theſe different modifications and operations of his mind, he would feel, with irreſiſtable conviction, that they all belong to one and the ſame ſentient and intelligent being; or, in other words, that they are all modifications and operations of himſelf.—I ſay nothing, at preſent, of the various ſimple notions, (or ſimple ideas, as they are commonly called) which would

ariſe in his mind; for example, the ideas of *number*, of *duration*, of *cauſe* and *effect*, of *perſonal identity*; all of which, though perfectly unlike his ſenſations could not fail to be ſuggeſted by means of them. Such a being, then, might know all that we know of mind at preſent; and as his language would be appropriated to mind ſolely, and not borrowed by analogy from material phenomena, he would even poſſeſs important advantages over us in conducting the ſtudy of pneumatology.

From theſe obſervations it ſufficiently appears, what is the real amount of the celebrated doctrine, which refers the origin of all our knowledge to our ſenſations; and that, even granting it to be true, (which for my own part, I am diſpoſed to do, in the ſenſe in which I have now explained it) it would by no means follow from it, that our notions of the operations of mind, nor even many of thoſe notions which are commonly ſuggeſted to us, *in the firſt inſtance*, by the perception of external objects, are *neceſſarily ſubſequent* to our knowledge of the qualities or even of the exiſtence of matter.

The remarks which I have offered on this doctrine, will not appear ſuperfluous to thoſe who recollect that, although it has, for many years paſt, been a ſubject of controvery in England it continues ſtill to be implicitly adopted by the beſt philoſophical writers in France; and that it has been employed by ſome of them to ſupport the ſyſtem of materialiſm; and by others to ſhew, that the intellectual diſtinctions between man and brutes, ariſe entirely from the differences in their animal organization, and in their powers of external perception.

CHAPTER SECOND.

OF ATTENTION.

WHEN we are deeply engaged in converſation, or occupied with any ſpeculation that is intereſting to the mind, the ſurrounding objects either do not produce in us the perceptions they are fitted to excite; or theſe perceptions are inſtantly forgotten. A clock, for example, may ſtrike in the ſame room with us, without our being able, next moment, to recollect whether we heard it or not.

In theſe, and ſimilar caſes, I believe, it is commonly taken for granted, that we really do not perceive the external object. From ſome analogous facts, however, I am inclined to ſuſpect that this opinion is not well-founded. A perſon who falls aſleep at church, and is ſuddenly awaked, is unable to recollect the laſt words ſpoken by the preacher; or even to recollect that he was ſpeaking at all. And yet, that ſleep does not ſuſpend entirely the powers of perception, may be inferred from this, that if the preacher were to make a ſudden pauſe in his diſcourſe, every perſon in the congregation who was aſleep, would inſtantly awake. In this caſe, therefore, it appears, that a perſon may be conſcious of a perception, without being able afterwards to recollect it.

Many other inſtances of the ſame general fact might be produced. When we read a book, (eſpecially in a language which is not perfectly familiar to us) we muſt perceive ſucceſſively every different letter, and muſt afterwards combine theſe letters into ſyllables and words before we comprehend the meaning of a ſentence. This proceſs, however, paſſes through the mind, without leaving any trace in the memory.

It has been proved by optical writers, that, in

perceiving the diſtances of viſible objects from the eye, there is a judgment of the underſtanding antecedent to the perception. In ſome caſes, this judgment is founded on a variety of circumſtances combined together; the confirmation of the organ neceſſary for diſtinct viſion; the inclination of the optic axes: the diſtinctneſs or indiſtinctneſs of the minute parts of the object; the diſtances of the intervening objects from each other, and from the eye; and, perhaps, on other circumſtances beſides theſe: and yet, in conſequence of our familiarity with ſuch proceſſes, from our earlieſt infancy, the perception ſeems to be inſtantaneous; and it requires much reaſoning, to convince perſons unaccuſtomed to philoſophical ſpeculations, that the fact is otherwiſe.

Another inſtance of a ſtill more familiar nature, may be of uſe for the farther illuſtration of the ſame ſubject. It is well known, that our thoughts do not ſucceed each other at random, but according to certain laws of aſſociation, which modern philoſophers have been at much pains to inveſtigate. It frequently, however, happens, particularly when the mind is animated by converſation, that it makes a ſudden tranſition from one ſubject to another, which, at firſt view, appears to be very remote from it; and that it requires a conſiderable degree of reflexion, to enable the perſon himſelf by whom the tranſition was made, to aſcertain what were the intermediate ideas. A curious inſtance of ſuch a ſudden tranſition is mentioned by Hobbes, in his Leviathan. "In a company," (ſays he,) "in which the converſation turned on the civil war, what could be conceived more impertinent, than for a perſon to aſk abruptly, What was the value of a Roman denarius? On a little reflexion, however, I was eaſily able to trace the train of thought which ſuggeſted the queſtion; for the original ſubject of diſcourſe naturally introduced the hiſtory of the

" King, and of the treachery of thoſe who ſurren-
" dered his perſon to his enemies; this again intro-
" duced the treachery of Judas Iſcariot, and the ſum
" of money which he received for his reward.—
" And all this train of ideas," ſays Hobbes, " paſſed
" through the mind of the ſpeaker in a twinkling,
" in conſequence of the velocity of thought." It is by no means improbable, that if the ſpeaker himſelf had been interrogated about the connexion of ideas, which led him aſide from the original topic of diſcourſe, he would have found himſelf, at firſt, at a loſs for an anſwer.

In the inſtances which have been laſt mentioned, we have alſo a proof, that a perception, or an idea, which paſſes through the mind, without leaving any trace in the memory, may yet ſerve to introduce other ideas connected with it by the laws of aſſociation. Other proofs of this important fact ſhall be mentioned afterwards.

When a perception or an idea paſſes through the mind, without our being able to recollect it next moment, the vulgar, themſelves aſcribe our want of memory to a want of attention. Thus, in the inſtance already mentioned, of the clock, a perſon, upon obſerving that the minute hand had juſt paſſed twelve, would naturally ſay, that he did not attend to the clock when it was ſtriking. There ſeems, therefore, to be a certain effort of mind upon which, even in the judgment of the vulgar, memory in ſome meaſure depends; and which they diſtinguiſh by the name of attention.

The connexion between attention and memory has been remarked by many authors. " Nec du-
" bium eſt," (ſays Quintilian, ſpeaking of memory,)
" quin plurimum in hac parte valeat mentis inten-
" tio, et velut acies luminum a proſpectu rerum
" quas intuetur non averſa." The ſame obſerva-

tion has been made by Locke,* and by moſt of the writers on the ſubject of education.

But although the connexion between attention and memory has been frequently remarked in general terms, I do not recollect that the power of attention has been mentioned by any of the writers on pneumatology, in their enumeration of the faculties of the mind ;† nor has it been conſidered by any one, ſo far as I know, as of ſufficient importance to deſerve a particular examination. Helvetius, indeed, in his very ingenious work, *D l'Eſprit*, has intitled one of his chapters, *De l'inegale capacité d' Attention ;* but what he conſiders under this article, is chiefly that capacity of patient inquiry, (or, as he calls it, *une attention ſuivie,)* upon which philoſophical genius ſeems in a great meaſure to depend. He has alſo remarked,‡ with the writers already mentioned, that the impreſſion which any

* " Memory depends much on attention and repetition." Locke's Eſſay, b. i. chap. x.

† Some important obſervations on the ſubject of attention occur in different parts of Dr. Reid's writings ; particularly in his Eſſays on the Intellectual Powers of Man, p. 62 ; and in his Eſſays on the Active powers of man, p. 78, et ſeq.—To this ingenious author we are indebted for the remark, that attention to things external, is properly called *obſervation ;* and attention to the ſubjects of our conſciouſneſs, *reflection.* He has alſo explained the cauſes of the peculiar difficulties which accompany this laſt exertion of the mind, and which form the chief obſtacles to the progreſs of pneumatology. I ſhall have occaſion, in another part of this work, to treat of habits of inattention in general, and to ſuggeſt ſome practical hints with reſpect to the culture both of the powers of obſervation and reflection. The view which I propoſe to take of attention at preſent, is extremely limited ; and is intended merely to comprehend ſuch general principles as are neceſſary to prepare the reader for the chapters which are to follow.

‡ " C'eſt l'attention, plus ou moins grande, qui grave plus " on moins profondement les objets dans la memoire."

thing makes on the memory, depends much on the degree of attention we give to it; but he has taken no notice of that effort which is abſolutely eſſential to the loweſt degree of memory. It is this effort that I propoſe to conſider at preſent;—not thoſe different degrees of attention which imprint things more or leſs deeply on the mind, but that act or effort without which we have no recollection or memory whatever.

With reſpect to the nature of this effort, it is perhaps impoſſible for us to obtain much ſatisfaction. We often ſpeak of greater and leſs degrees of attention; and, I believe, in theſe caſes, conceive the mind) if I may uſe the expreſſion) to exert itſelf with different degrees of energy. I am doubtful, however, if this expreſſion conveys any diſtinct meaning. For my own part, I am inclined to ſuppoſe, (though I would by no means be underſtood to ſpeak with confidence,) that it is eſſential to memory, that the perception or the idea that we would wiſh to remember, ſhould remain in the mind for a certain ſpace of time, and ſhould be contemplated by it, excluſively of every thing elſe; and that attention conſiſts partly (perhaps entirely) in the effort of the mind, to detain the idea or the perception, and to exclude the other objects that ſolicit its notice.

Notwithſtanding, however, the difficulty of aſcertaining, in what this act of the mind conſiſts, every perſon muſt be ſatisfied of its reality from his own conſciouſneſs; and of its eſſential connexion with the power of memory. I have already mentioned ſeveral inſtances of ideas paſſing through the mind, without our being able to recollect them next moment. Theſe inſtances were produced, merely to illuſtrate the meaning I annex to the word attention; and to recall to the recollection of the reader, a few ſtriking caſes, in which the poſſibility of our carrying on a proceſs of thought, which we are unable to attend to at the time, or to remem-

ber afterwards, is acknowledged in the received ſyſtems of philoſophy. I ſhall now mention ſome other phenomena, which appear to me to be very ſimilar to theſe, and to be explicable in the ſame manner; although they have commonly been referred to very different principles.

The wonderful effect of practice in the formation of habits, has been often, and juſtly, taken notice of as one of the moſt curious circumſtances in the human conſtitution. A mechanical operation, for example, wich we at firſt performed with the utmoſt difficulty, comes, in time, to be ſo familiar to us, that we are able to perform it without the ſmalleſt danger of miſtake; even while the attention appears to be completely engaged with other ſubjects. The truth ſeems to be, that, in conſequence of the aſſociation of ideas, the different ſteps of the proceſs preſent themſelves ſucceſſively to the thoughts, without any recollection on our part, and with a degree of rapidity proportioned to the length of our experience; ſo as to ſave us entirely the trouble of heſitation and reflection, by giving us every moment a preciſe and ſteady notion of the effect to be produced.*

In this caſe of ſome operations which are very familiar to us, we find ourſelves unable to attend to, or to recollect, the acts of the will by which they were preceded; and accordingly, ſome philoſophers of great eminence have called in queſtion the exiſtence of ſuch volitions; and have repreſented our

* I do not mean by this obſervation, to call in queſtion the effects which the practice of the mechanical arts has on the muſcles of the body. Theſe are as indiſputable as its effects on the mind.—A man who has been accuſtomed to write with his right hand, can write better with his left hand, than another who never practiſed the art at all; but he cannot write ſo well with his left hand as with his right. —The effects of practice, therefore, it ſhould ſeem, are produced partly on the mind, and partly on the body.

habitual actions as involuntary and mechanical. But surely the circumstance of our inability to recollect our volitions, does not authorise us to dispute their possibility; any more than our inability to attend to the process of the mind, in estimating the distance of an object from the eye, authorises us to affirm that the perception is instantaneous. Nor does it add any force to the objection to urge, that there are instances in which we find it difficult, or perhaps impossible, to check our habitual actions by a contrary volition. For it must be remembered, that this contrary volition does not remain with us steadily during the whole operation; but is merely a general intention or resolution, which is banished from the mind, as soon as the occasion presents itself, with which the habitual train of our thoughts and volitions is associated.*

It may indeed be said, that these observations only prove the possibility that our habitual actions may be voluntary. But if this be admitted, nothing more can well be required; for surely, if these phenomena are clearly explicable from the known and acknowledged laws of the human mind, it would be unphilosophical to devise a new principle, on purpose to account for them. The doctrine, therefore,

* The solution of this difficulty, which is given by Dr. Potterfield, is somewhat curious.

"Such is the power of custom and habit, that many actions which are no doubt voluntary, and proceed from our mind, are in certain circumstances rendered necessary, so as to appear altogether mechanical, and independent of our wills; but it does not from thence follow, that our mind is not concerned in such motions, but only that it has imposed upon itself a law, whereby it regulates and governs them to the greatest advantage. In all this, there is nothing of intrinsical necessity; the mind is at absolute liberty to act as it pleases; but being a wise agent, it cannot chuse but to act in conformity to this law, by reason of the utility and advantage that arises from this way of acting." TREATISE ON THE EYE, vol. ii. p. 17.

which I have laid down with reſpect to the nature of habits, is by no means founded on hypotheſis, as has been objected to me by ſome of my friends; but, on the contrary, the charge of hypotheſis falls on thoſe who attempt to explain them, by ſaying that they are *mechanical* or *automatic*; a doctrine which, if it is at all intelligible, muſt be underſtood as implying the exiſtence of ſome law of our conſtitution, which has been hitherto unobſerved by philoſophers; and to which, I believe, it will be difficult to find any thing analogous in our conſtitution.

In the foregoing obſervations, I have had in view a favorite doctrine of Dr. Hartley's; which has been maintained alſo of late by a much higher authority, I mean Dr. Reid.

"Habit"* (ſays this ingenious author) "differs "from inſtinct, not in its nature, but in its origin; "the laſt being natural, the firſt acquired. Both "operate without will or intention without thought, "and therefore may be called mechanical princi-"ples." In another paſſage,† he expreſſes himſelf thus: "I conceive it to be a part of our conſti-"tution, that what we have been accuſtomed to do, "we acquire not only a facility but a prone-"neſs to do on the like occaſions; ſo that it re-"quires a particular will or effort to forbear it, "but to do it requires, very often, no will at all."

The ſame doctrine is laid down ſtill more explicitly by Dr. Hartley.

"Suppoſe," (ſays he) "a perſon who has a per-"fectly voluntary command over his fingers, to be-"gin to learn to play on the harpſichord. The firſt "ſtep is to move his fingers from key to key, with "a ſlow motion, looking at the notes, and exerting "an expreſs act of volition in every motion. By "degrees the motions cling to one another, and to

* Eſſays on the Active Powers of Man. † Ibid.

"the impreſſions of the notes, in the way of aſſo-
"ciation, ſo often mentioned, the acts of volition
"growing leſs and leſs expreſs all the time, till at
"laſt they become evaneſcent and imperceptible.
"For an expert performer will play from notes, or
"ideas laid up in the memory, and at the ſame time
"carry on a quite different train of thoughts in his
"mind; or even hold a converſation with another.
"Whence we may conclude, that there is no inter-
"vention of the idea, or ſtate of mind called Will."*
Caſes of this ſort, Hartley calls "tranſitions of vol-
"untary actions into automatic ones."

I cannot help thinking it more philoſophical to ſuppoſe, that thoſe actions which are originally voluntary, always continue ſo; although, in the caſe of operations which are become habitual in conſequence of long practice, we may not be able to recollect every different volition. Thus, in the caſe of a performer on the harpſichord, I apprehend, that there is an act of the will preceding every motion of every finger, although he may not be able to recollect theſe volitions afterwards; and although he may, during the time of his performance, be employed in carrying on a ſeparate train of thought. For, it muſt be remarked, that the moſt rapid performer can, when he pleaſes, play ſo ſlowly, as to be able to attend to, and to recollect, every ſeparate act of his will in the various movements of his fingers; and he can gradually accelerate the rate of his execution, till he is unable to recollect theſe acts. Now, in this inſtance, one of two ſuppoſitions muſt be made; the one is, that the operations in the two caſes are carried on preciſely in the ſame manner, and differ only in the degree of rapidity; and that when this rapidity exceed a certain rate, the acts of the will are too momentary to leave any impreſſion on the memory.—The other is, that when the rapi-

* Vol. i. p. 108, 109.

dity exceeds a certain rate, the operation is taken entirely out of our hands; and is carried on by ſome unknown power, of the nature of which we are as ignorant, as of the cauſe of the circulation of the blood, or of the motion of the inteſtines.* The laſt ſuppoſition ſeems to me to be ſomewhat ſimilar to that of a man who ſhould maintain, that, although a body, projected with a moderate velocity, is ſeen to paſs through all the intermediate ſpaces in moving from one place to another, yet we are not intitled to conclude, that this happens when the body moves ſo quickly as to become inviſible to the eye. The former ſuppoſition is ſupported by the analogy of many other facts in our conſtitution. Of ſome of theſe I have already taken notice; and it would be eaſy to add to the number.—An expert accountant, for example, can ſum up, almoſt with a ſingle glance of his eye, a long column of figures. He can tell the ſum, with unerring certainty; while, at the ſame time, he is unable to recollect any one of the figures of which that ſum is compoſed; and

* This ſeems to have been the opinion of Biſhop Berkeley whoſe doctrine concerning the nature of our habitual actions, coincides with that of the two philoſophers already quoted. "It muſt be owned, we are not conſcious of the ſyſtole and "diaſtole of the heart, or the motion of the diaphragm. It "may not, nevertheleſs, be thence inferred, that unknowing nature can act regularly as well as ourſelves. The "true inference is, that the ſelf-thinking individual, or human perſon, is not the real author of thoſe natural motions. "And, in fact, no man blames himſelf, if they are wrong, "or values himſelf, if they are right. The ſame may be "ſaid of the fingers of a muſician, which ſome object to be "moved by habit, which underſtands not; it being evident "that what is done by rule, muſt proceed from ſomething "that underſtands the rule; therefore, if not from the mu"ſician himſelf, from ſome other active intelligence; the "ſame, perhaps, which governs bees and ſpiders, and moves "the limbs of thoſe who walk in their ſleep."—See a Treatiſe, entitled, *Siris*, p. 123. 2d edit.

yet nobody doubts, that each of these figures has passed through his mind, or supposes, that when the rapidity of the process becomes so great that he is unable to recollect the various steps of it, he obtains the result by a sort of inspiration. This last supposition would be perfectly analogous to Dr. Hartley's doctrine concerning the nature of our habitual exertions.

The only plausible objection which, I think, can be offered to the principles I have endeavoured to establish on this subject, is founded on the astonishing, and almost incredible rapidity, they necessarily suppose in our intellectual operations.—When a person, for example, reads aloud; there must, according to this doctrine, be a separate volition preceding the articulation of every letter; and it has been found, by actual trial,* that it is possible to pronounce about two thousand letters in a minute. It is reasonable to suppose, that the mind is capable of so many different acts in an interval of time so very inconsiderable?

With respect to this objection, it may be observed, in the first place, that all arguments against the foregoing doctrine with respect to our habitual exertions, in so far as they are founded on the inconceivable rapidity which they suppose in our intellectual operations, apply equally to the common doctrine concerning our perception of distance by the eye. But this is not all. To what does the supposition amount, which is considered as so incredible? Only to this, that the mind is so formed, as

* Incredibili velocitate peraguntur et repetuntur musculorum contractiones, Docent cursus, præsertim quadrupedum; vel lingua, quæ quadringinta vocabula, forte bis mille literas, exprimit, spatio temporis quod *minutum* vocare solemus, quamvis ad multas litras exprimendas plures musculorum contractiones requirantur.

Conspectus Medicinæ Theoricæ, Auct. Jac. Gregory, *Edit. altera*, p. 171.

to be able to carry on certain intellectual proceſſes, in intervals of time too ſhort to be eſtimated by our faculties; a ſuppoſition which, ſo far from being extravagant, is ſupported by the analogy of many of our moſt certain concluſions in natural philoſophy. The diſcoveries made by the microſcope have laid open to our ſenſes a world of wonders, the exiſtence of which hardly any man would have admitted upon inferior evidence; and have gradually prepared the way for thoſe phyſical ſpeculations, which explain ſome of the moſt extraordinary phenomena of nature, by means of modifications of matter far too ſubtile for the examination of our organs. Why then ſhould it be conſidered as unphiloſophical, after having demonſtrated the exiſtence of various intellectual proceſſes which eſcape our attention in conſequence of their rapidity, to carry the ſuppoſition a little farther, in order to bring under the known laws of the human conſtitution, a claſs of mental operations, which muſt otherwiſe remain perfectly inexplicable? Surely, our ideas of time are merely relative, as well as our ideas of extenſion; nor is there any good reaſon for doubting, that if our powers of attention and memory were more perfect than they are, ſo as to give us the ſame advantage in examining rapid events, which the microſcope gives for examining minute portions of extenſion, they would enlarge our views with reſpect to the intellectual world, no leſs than that inſtrument has with reſpect to the material.

It may, perhaps, contribute to remove, ſtill more completely, ſome of the ſcruples which are naturally ſuggeſted by the foregoing doctrine, to remark, that, as the great uſe of attention and memory is to enable us to treaſure up the reſults of our experience and reflection for the future regulation of our conduct, it would have anſwered no purpoſe for the author of our nature to have extended their

province to thoſe intervals of time, which we have no occaſion to eſtimate in the common buſineſs of life. All the intellectual proceſſes I have mentioned are ſubſervient to ſome particular end, either of perception or of action; and it would have been perfectly ſupurfluous, if, after this end was gained, the ſteps which are inſtrumental in bringing it about, were all treaſured up in the memory. Such a conſtitution of our nature would have had no other effect but to ſtore the mind with a variety of uſeleſs particulars.

After all I have ſaid, it will perhaps be ſtill thought, that ſome of the reaſonings I have offered are too hypothetical; and it is even poſſible, that ſome may be ſuppoſed rather to diſpute the common theory of viſion, than admit the concluſions I have endeavoured to eſtabliſh. To ſuch, I flatter myſelf that the following conſiderations may be of uſe, as they afford a more palpable inſtance than any I have yet mentioned, of the rapidity with which the thoughts may be trained by practice, to ſhift from one thing to another.

When an equilibriſt balances a rod upon his finger, not only the attention of his mind, but the obſervation of his eye, is conſtantly requiſite.—It is evident that the part of his body, which ſupports the object is never wholly at reſt; otherwiſe the object would no more ſtand upon it, than if placed in the ſame poſition upon a table. The equilibriſt, therefore, muſt watch, in the very beginning, every inclination of the object from the proper poſition, in order to counteract this inclination by a contrary movement. In this manner, the object has never time to fall in any one direction, and is ſupported in a way ſomewhat analogous to that in which a top is ſupported on a pivot, by being made to ſpin upon an axis.—That a perſon ſhould be able to do this in the caſe of a ſingle object, is curious; but that he ſhould be able to balance in the ſame

way two, or three, upon different parts of his body, and at the same time balance himself on a small cord or wire, is indeed wonderful. Nor is it possible to conceive that, in such an instance, the mind, at one and the same moment, attends to these different equilibriums; for it is not merely the attention which is requisite, but the eye. We must therefore conclude, that both of these are directed successively to the different equilibriums, but change from one object to another with such velocity, that the effect, with respect to the experiment, is the same as if they were directed to all the objects constantly.

It is worth while to remark farther, with respect to this last illustration, that it affords direct evidence of the possibility of our exerting acts of the will, which we are unable to recollect; for the movements of the equilibrist do not succeed each other in a regular order, like those of the harpsichord player, in performing a piece of music; but must in every instance be regulated by accidents, which may vary in numberless respects, and which, indeed, must vary in numberless respects, every time he repeats the experiment; and therefore, although, in the former case, we should suppose, with Hartley, "that the "motions cling to one another, and to the impres- "sions of the notes, in the way of association, with- "out any intervention of the state of mind called "will," yet in this instance, even the possibility of such a supposition is directly contradicted by the fact.

The dexterity of jugglers, (which, by the way, merits a greater degree of attention from philosophers, than it has yet attracted) affords many curious illustrations of the same doctrine. The whole of this art seems to me to be founded on this principle; that it is possible for a person, by long practice, to acquire a power, not only of carrying on certain intellectual processes more quickly than other men,

(for all the feats of legerdemain ſuppoſe the exerciſe of obſervation, thought and volition) but of performing a variety of movements with the hand, before the eyes of a company, in an interval of time too ſhort to enable the ſpectators to exert that degree of attention, which is neceſſary to lay a foundation for memory.*

As ſome philoſophers have diſputed the influence of the will in the caſe of habits, ſo others (particularly Stahl and his followers) have gone into the oppoſite extreme, by referring to the will all the vital motions. If it be admitted, (ſay theſe philoſophers) that there are inſtances in which we will an effect, without being able to make it an object of attention, is it not poſſible, that what we commonly call the vital and involuntary motions, may be the conſequences of our thought and volition? But there is ſurely a wide difference between thoſe caſes, in which the mind was at firſt conſcious of thought and volition, and gradually loſt the power of attending to them, from the growing rapidity of the intellectual proceſs; and a caſe in which the effect itſelf is perfectly unknown to the bulk of mankind, even after they arrive at maturity, and in which this effect has continued to take place with the moſt perfect regularity, from the very beginning of their animal exiſtence, and long before the firſt dawn of either reflexion or experience.

Some of the followers of Stahl have ſtated the fact rather inaccurately, even with reſpect to our habitual exertions. Thus Dr. Porterfield, in his Treatiſe on the Eye, is at pains to prove, that the ſoul may think and will without knowledge or conſciouſneſs. But this, I own is to me inconceivable. The true ſtate of the fact, I apprehend, is, that the mind may think and will, without attending to its thoughts and volitions, ſo as to be able after-

* See note [E].

wards to recollect them.—Nor is this merely a verbal criticism; for there is an important difference between consciousness and attention, which it is very necessary to keep in view, in order to think upon this subject with any degree of precision. * The one is an involuntay state of the mind; the other is a voluntary act; the one has no immediate connexion with memory; but the other is so essentially subservient to it, that without some degree of it, the ideas and perceptions which pass through the mind, seem to leave no trace behind them.

When two persons are a speaking to us at once, we can attend to either of them at pleasure, without being much disturbed by the other. If we attempt to listen to both, we can understand neither. The fact seems to be, that when we attend constantly to one of the speakers, the words spoken by the other make no impression on the memory, in consequence of our not attending to them; and affect us as little as if they had not been uttered. This power, however, of the mind to attend to either speaker at pleasure, supposes that it is, at one and the same time conscious of the sensations which both produce.

Another well-known fact may be of use in illustrating the same distinction. A person who accidentally loses his sight, never fails to improve gradually in the sensibility of his touch.—Now, there are only two ways of explaining this. The one is, that in consequence of the loss of the one sense, some change

* The distinction between attention and consciousness is pointed out by Dr. Reid in his Essays on the intellectual Powers of Man. "Attention is a voluntary act; it requires "an active exertion to begin and to continue it; and it "may be continued as long as we will; but consciousness is involuntary, and of no continuance, changing with every "thought." The same author has remarked, that these two operations of the mind have been frequently confounded by philosophers, and particularly by Mr. Locke.

takes place in the physical constitution of the body, so as to improve a different organ of perception. The other, that the mind gradually acquires a power of attending to and remembering those slighter sensations of which it was formerly conscious, but which, from our habits of inattention, made no impression whatever on the memory. No one, surely, can hesitate for a moment, in pronouncing which of these two suppositions is the more philosophical.

Having treated, at considerable length, of those habits in which both mind and body are concerned, I proceed to make a few remarks on some phenomena which are purely intellectual; and which, I think, are explicable on the same principles with those which have been now under our review.

Every person who has studied the elements of geometry, must have observed many cases in which the truth of a theorem struck him the moment he heard the enunciation. I do not allude to those theorems the truth of which is obvious almost to sense; such as, that any two sides of a triangle are greater than the third side; or that one circle cannot cut another circle in more than two points; but to some propositions with respect to quantity, considered abstractly, (to some, for example, in the fifth book of Euclid,) which almost every student would be ready to admit without a demonstration. These propositions, however, do by no means belong to the class of axioms; for their evidence does not strike every person equally, but requires a certain degree of quickness to perceive it. At the same time, it frequently happens that although we are convinced the proposition is true, we cannot state immediately to others upon what our conviction is founded. In such cases, I think it highly probable that before we give our assent to the theorem, a pro-

ceſs of thought* has paſſed through the mind, but has paſſed through it ſo quickly, that we cannot, without difficulty, arreſt our ideas in their rapid ſucceſſion, and ſtate them to others in their proper and logical order. It is ſome confirmation of this theory, that there are no propoſitions of which it is more difficult to give a legitimate proof from firſt principles, than of thoſe which are only removed a few ſteps from the claſs of axioms; and that thoſe men who are the moſt remarkable for their quick perception of mathematical truth, are ſeldom clear and methodical in communicating their knowledge to others.—A man of a moderate degree of quickneſs, the very firſt time he is made acquainted with the fundamental principles of the method of fluxions, or of the method of prime and ultimate ratios, is almoſt inſtantaneouſly ſatisfied of their truth; yet how difficult is it to demonſtrate theſe principles rigorouſly!!

What I have now ſaid with reſpect to mathematics, may be applied in a great meaſure to the other branches of knowledge. How many queſtions daily occur to us, in morals, in politics, and in common life; in conſidering which we almoſt inſtantaneouſly ſee where the truth lies, although we are not in a condition, all at once, to explain the grounds of our conviction! Indeed, I apprehend, there are a few, even among thoſe who have devoted themſelves to ſtudy, but who have not been habituated to communicate their knowledge to others, who are able to exhibit, in their natural order, the different ſteps of any inveſtigation by which they have been led to form a particular concluſion. The common obſervation, therefore, that an obſcure elocution always indicates on imperfect knowledge of the ſubject; al-

* Of the nature of theſe proceſſes of thought, I ſhall treat fully in another part of my work, under the article of Reaſoning. I have expreſſed myſelf concerning them in this chapter, in as general terms as poſſible.

though it may perhaps be true with reſpect to men who have cultivated the art of ſpeaking, is by no means to be relied on as a general rule, in judging of the talents of thoſe whoſe ſpeculations have been carried on with a view merely to their own private ſatisfaction.

In the courſe of my own experience, I have heard of more than one inſtance, of men who, without any mathematical education, were able on a little reflection, to give a ſolution of any ſimple algebraical problem; and who, at the ſame time, were perfectly incapable of explaining by what ſteps they obtained the reſult. In theſe caſes, we have a direct proof of the poſſibility of inveſtigating even truths which are pretty remote, by an intellectual proceſs, which, as ſoon as it is finiſhed, vaniſhes almoſt entirely from the memory.—It is probable, that ſomething of the ſame kind takes place much more frequently in the other branches of knowledge, in which our reaſonings, conſiſt commonly but of a few ſteps. Indeed, I am inclined to think, that it is in this way that by far the greater part of our ſpeculative concluſions are formed.

There is no talent, I apprehend, ſo eſſential to a public ſpeaker, as to be able to ſtate clearly every different ſtep of thoſe trains of thought by which he himſelf was led to the concluſions he wiſhes to eſtabliſh. Much may be here done by ſtudy and experience. Even in thoſe caſes in which the truth of a propoſition ſeems to ſtrike us inſtantaneouſly, although we may not be able, at firſt, to diſcover the media of proof, we ſeldom fail in the diſcovery by perſeverance.—Nothing contributes ſo much to form this talent as the ſtudy of metaphyſics; not the abſurd metaphyſics of the ſchools, but that ſtudy which has the operations of the mind for its object. By habituating us to reflect on the ſubjects of our conſciouſneſs, it enables us to retard, in a conſiderable degree, the current of thought; to arreſt many of

thoſe ideas, which would otherwiſe eſcape our notice; and to render the arguments which we employ for the conviction of others, an exact tranſcript of thoſe trains of inquiry and reaſoning, which originally led us to form our opinions.

Theſe obſervations lead me to take notice of an important diſtinction between the intellectual habits of men of ſpeculation and of action. The latter, who are under a neceſſity of thinking and deciding on the ſpur of the occaſion, are led to cultivate, as much as poſſible, a quickneſs in their mental operations; and ſometimes acquire it in ſo great a degree, that their judgments ſeem to be almoſt intuitive. To thoſe, on the other hand, who have not merely to form opinions for themſelves, but to communicate them to others, it is neceſſary to retard the train of thought as it paſſes in the mind, ſo as to be able afterwards to recollect every different ſtep of the proceſs; a habit, which in ſome caſes, has ſuch an influence on the intellectual powers, that there are men, who, even in their private ſpeculations, not only make uſe of words as an inſtrument of thought, but form theſe words into regular ſentences.

It may perhaps appear, at firſt, a paradoxical obſervation, that one great employment of philoſophers, in a refined age, is to bring to light, and arrange, thoſe rapid and confuſed trains of thought, which appear from the ſtructure of languages, and from the monuments of ancient laws and governments, to have paſſed through the minds of men in the moſt remote and unenlightened periods. In proof, however, of this, it is ſufficient to mention, the ſyſtematical analogy which we find, to a certain degree, running through the ſtructure of the moſt imperfect tongues, (for example, in the formation of the different parts of the verbs) and thoſe general principles, which the philoſophical lawyer traces amidſt an apparent chaos of precedents and

ſtatutes. In the language, too, of the rudeſt tribe, we find words transferred from one ſubject to another, which indicate, in the mind of the individual who firſt made the tranference, ſome perception of reſemblance or of analogy. Such transferences can hardly be aſcribed to accident, but may be conſidered as proofs that the analogies which the philoſopher afterwards points out between the objects which are diſtinguiſhed by the ſame name, had been perceived by the inventors of language, although it is more than probable that they never expreſſed them in words, nor could even have explained them if they had been queſtioned on the ſubject.

Nor will this appear a bold or incredible ſuppoſition, if we reflect on the ſagacity and ingenuity which ſavages, and even peaſants, diſcover, in overcoming the difficulties which occur in their ſituation. They do not, indeed, engage in long proceſſes of abſtract reaſoning, for which they have no inclination, and which it is impoſſible to carry on without the uſe of a cultivated and a copious language; but when preſſed by preſent circumſtances, they combine means to accompliſh particular ends, in a manner which indicates the exerciſe both of invention and of reaſoning. It is probable that ſuch proceſſes are carried on in their minds, with much leſs aſſiſtance from language, than a philoſopher would derive on a ſimilar occaſion; and it is almoſt certain, that they would find themſelves perfectly incapable of communicating to others the ſteps by which they were led to their concluſions. In conſequence of theſe circumſtances, the attainments of the human mind, in its ruder ſtate, periſh with the individual, without being recorded in writing, or perhaps expreſſed in words; and we are left to infer them indirectly from the ſtructure of language, or from the monuments of ancient cuſtoms and inſtitutions.

When a train of thought leads to any intereſting

concluſion, or excites any pleaſant feeling, it becomes peculiarly difficult to arreſt our fleeting ideas; becauſe the mind, when once it has felt the pleaſure, has little inclination to retrace the ſteps by which it arrived at it. This is one great cauſe of the difficulty attending philoſophical criticiſm. When a critic explains to us, why we are pleaſed with any particular beauty, or offended with an defect, it is evident, that if his theory be juſt, the circumſtances which he points out as the foundation of our pleaſure or uneaſineſs, muſt have occurred to our minds before we were pleaſed with the beauty, or offended with defect. In ſuch caſes, it ſometimes happens, when a critic has been fortunate in his theory, that we recogniſe at firſt ſight our old ideas, and, without any farther conſideration, are ready to bear teſtimony to the truth, from our own conſciouſneſs. So very difficult, however, is it to attend to the ideas which excite ſuch feelings, that it often appears to be doubtful, whether a theory be right or wrong; and that where there is every reaſon to believe that the pleaſure is produced in all men in the ſame way, different critics adopt different theories with reſpect to its cauſe. It is long practice alone, joined to what is commonly called a metaphyſical turn of mind, (by which I think is chiefly to be underſtood, a capacity of reflecting on the ſubjects of our conſciouſneſs,) that can render ſuch efforts of attention eaſy. Exquiſite ſenſibility, ſo far from being uſeful in this ſpecies of criticiſm, both gives a diſreliſh for the ſtudy, and diſqualifies for purſuing it.

Before we leave the ſubject of attention, it is proper to take notice of a queſtion which has been ſtated with reſpect to it; whether we have the power of attending to more than one thing at one and the ſame inſtant; or in other words, whether we can attend at one and the ſame inſtant, to ob-

jects which we can attend to separately ?* This queſtion has, if I am not miſtaken, been already decided by ſeveral philoſophers in the negative ; and I acknowledge, for my own part, that although their opinion has not only been called in queſtion by others, but even treated with ſome degree of contempt as altogether hypothetical, it appears to me to be the moſt reaſonable and philoſophical that we can form on the ſubject.

There is indeed a great variety of caſes, in which the mind apparently exerts different acts of attention at once ; but from the inſtances which have already been mentioned, of the aſtoniſhing rapidity of thought, it is obvious, that all this may be explained, without ſuppoſing theſe acts to be co-exiſtent ; and I may even venture to add, it may all be explained in the moſt ſatisfactory manner, without aſcribing to our intellectual operations, a greater degree of rapidity than that with which we know from the fact that they are ſometimes carried on. The effect of practice in increaſing this capacity of apparently attending to different things at once, renders this explanation of the phenomenon in queſtion, more probable than any other.

The caſe of the equilibriſt and rope-dancer already mentioned, is particularly favourable to this explanation ; as it affords direct evidence of the poſſibility of the mind's exerting different ſucceſſive acts in an interval of time ſo ſhort, as to produce the ſame ſenſible effect, as if they had been exerted at one and the ſame moment. In this caſe, indeed, the rapidity of thought is ſo remarkable, that if the different acts of the mind were not all neceſſarily accompanied with different movements of the eye, there can be no reaſon for doubting, that the philoſophers, whoſe doctrine I am now controverting, would have

* I have added this explanation to obviate the queſtion, what is meant by *one* object ?

aſſerted, that they are all mathematically co-exiſtent.

Upon a queſtion, however, of this ſort, which does not admit of a perfectly direct appeal to the fact, I would by no means be underſtood to decide with confidence; and therefore I ſhould wiſh the concluſions I am now to ſtate, to be received as only conditionally eſtabliſhed. They are neceſſary and obvious conſequences of the general principle, "that the mind can only attend to one thing at "once;" but muſt ſtand or fall with the truth of that ſuppoſition.

It is commonly underſtood, I believe, that, in a concert of muſic, a good ear can attend the different parts of the muſic ſeparately, or can attend to them all at once, and feel the full effect of the harmony. If the doctrine, however, which I have endeavoured to eſtabliſh, be admitted, it will follow, that, in the latter caſe, the mind is conſtantly varying its attention from the one part of the muſic to the other, and that its operations are ſo rapid, as to give us no perception of an interval of time.

The ſame doctrine leads to ſome curious concluſions with reſpect to viſion. Suppoſe the eye to be fixed in a particular poſition, and the picture of an object to be painted on the retina. Does the mind perceive the complete figure of the object at once, or is this perception the reſult of the various perceptions we have of the different points in the outline? With reſpect to this queſtion, the principles already ſtated lead me to conclude, that the mind does at one and the ſame time perceive every point in the outline of the object, (provided the whole of it be painted on the retina at the ſame inſtant,) for perception, like conſciouſneſs, is an involuntary operation. As no two points, however, of the outline are in the ſame direction, every point, by itſelf, conſtitutes juſt as diſtinct an object of attention to the mind, as if it were ſeparated by an interval of

empty ſpace from all the reſt. If the doctrine therefore formerly ſtated be juſt, it is impoſſible for the mind to attend to more than one of theſe points at once; and as the perception of the figure of the object; implies a knowledge of the relative ſituation of the different points with reſpect to each other, we muſt conclude, that the perception of figure by the eye, is the reſult of a number of different acts of attention. Theſe acts of attention, however, are performed with ſuch rapidity, that the effect, with reſpect to us, is the ſame as if the perception were inſtantaneous.

In farther confirmation of this reaſoning, it may be remarked, that if the perception of viſible figure were an immediate conſequence of the picture on the retina, we ſhould have, at the firſt glance, as diſtinct an idea of a figure of a thouſand ſides, as of a triangle or a ſquare. The truth is, that when the figure is very ſimple, the proceſs of the mind is ſo rapid, that the perception ſeems to be inſtantaneous; but when the ſides are multiplied beyond a certain number, the interval of time neceſſary for theſe different acts of attention becomes perceptible.

It may perhaps be aſked, what I mean by a *point* in the outline of a figure, and what it is that conſtitutes this point *one* object of attention? The anſwer, I apprehend, is that this point is *minimum viſibile*. If the point be leſs, we cannot perceive it: if it be greater, it is not all ſeen in one direction.

If theſe obſervations be admitted, it will follow, that, without the faculty of memory, we could have had no perception of viſible figure.

CHAPTER THIRD.

OF CONCEPTION.

BY Conception, I mean that power of the mind which enables it to form a notion of an abſent object of perception; or of a ſenſation which it has formerly felt, I do not contend that this is excluſively the proper meaning of the word, but I think that the faculty which I have now defined, deſerves to be diſtinguiſhed by an appropriated name.

Conception is often confounded with other powers. When a painter makes a picture of a friend, who is abſent or dead, he is commonly ſaid to paint from memory: and the expreſſion is ſufficiently correct for common converſation. But in an analyſis of the mind, there is ground for a diſtinction. The power of conception enables him to make the features of his friend an object of thought, ſo as to copy the reſemblance; the power of memory recogniſes theſe features as a former object of perception. Every act of memory includes an idea of the paſt; conception implies no idea of time whatever.*

According to this view of the matter, the word *conception* correſponds to what was called by the ſchoolmen *ſimple apprehenſion;* with this difference only, that they included, under this name, our apprehenſion of general propoſitions; whereas I ſhould wiſh to limit the application of the word *conception* to our ſenſations, and the objects of our perception. Dr. Reid, in his Inquiry, ſubſtitutes the word *conception* inſtead of the ſimple apprehenſion of the ſchools, and employs it in the ſame extenſive ſig-

* Shakeſpeare calls this power "the mind's eye."
Hamlet.—"My father! Methinks I ſee my father.
Horatio.—"Where, my Lord;
Hamlet.—"In my mind's eye, Horatio."
Act 1. Scene 4.

nification. I think it may contribute to make our ideas more diſtinct, to reſtrict its meaning:—and for ſuch a reſtriction, we have the authority of philoſophers, in a caſe perfectly analogous.—In ordinary language we apply the ſame word *perception*, to the knowledge which we have by our ſenſes of external objects, and to our knowledge of ſpeculative truth: and yet an author would be juſtly cenſured who ſhould treat of theſe two operations of the mind under the ſame article of perception. I apprehend there is as wide a difference between the conception of a truth, and the conception of an object of ſenſe, as between the perception of a tree, and the perception of a mathematical theorem.—I have therefore taken the liberty to diſtinguiſh alſo the two former operations of the mind: and under the article of *conception*, ſhall confine myſelf to that faculty whoſe province it is to enable us to form a notion of our paſt ſenſations, or of the objects of ſenſe that we have formerly perceived.

Conception is frequently uſed as ſynonymous with imagination. Dr. Reid ſays, that, "imagination, "in is proper ſenſe, ſignifies a lively concep- "tion of objects of ſight." "This is a talent" (he remarks) "of importance to poets, and orators; "and deſerves a proper name, on account of its "connexion with their arts." He adds that "im- "agination is diſtinguiſhed from conception as a "part from a whole."

I ſhall not inquire, at preſent, into the proper Engliſh meaning of the words *conception* and *imagination*. In a ſtudy ſuch as this, ſo far removed from the common purpoſes of ſpeech, ſome latitude may perhaps be allowed in the uſe of words; provided only we define accurately thoſe we employ, and adhere to our own definitions.

The buſineſs of conception, according to the account I have given of it, is to preſent us with an exact tranſcript of what we have felt or perceived. But

we have, moreover, a power of modifying our conceptions, by combining the parts of different ones together to as to form new wholes of our own creation. I ſhall employ the word *imagination* to expreſs this power: and, I apprehend, that this is the proper ſenſe of the word; if imagination be the power which gives birth to the productions of the poet and the painter. This is not a ſimple faculty of the mind. It preſuppoſes abſtraction, to ſeparate from each other qualities, and circumſtances which have been perceived in conjuction; and alſo judgment and taſte, to direct us in forming the combinations. If they are made wholly at random, they are proofs of inſanity.*

The firſt remarkable fact which ſtrikes us with reſpect to conception is, that we can conceive the objects of ſome ſenſes much more eaſily than thoſe of others. Thus we can conceive an abſent viſible object, ſuch as a building that is familiar to us, much more eaſily than a particular ſound, a particular taſte, or a particular pain, which we have formerly felt. It is probable, however, that this power might be improved in the caſe of ſome of our ſenſes. Few people, I believe, are able to form a very diſtinct conception of ſounds; and yet it is certain, that by

* In common diſcourſe, we often uſe the phraſe of *thinking upon an object*, to expreſs what I here call, the *conception* of it.——In the following paſſage Shakeſpeare uſes the former of theſe phraſes, and the words *imagination* and *apprehenſion* as ſynonymous with each other.

——————Who can hold a fire in his hand,
By thinking on the froſty Caucaſus?
Or cloy the hungry edge of appetite,
By bare imagination of a feaſt?
Or wallow naked in December's ſnow,
By thinking on fantaſtic ſummer's heat?
Oh no! the apprehenſion of the good
Gives but the greater feeling to the worſe.
K. Richard II. Act 1. Scene 6.

practice a person may acquire a power of amusing himself with reading written music. And in the case of poetical numbers, it is universally known, that a reader may enjoy the harmony of the verse, without articulating the words, even in a whisper. In such cases, I take for granted, that our pleasure arises from a very strong conception of the sounds which we have been accustomed to associate with particular written characters.

The peculiarity in the case of visible objects, seems to arise from this; that when we think of a sound or of a taste, the object of our conception is one single detached sensation; whereas every visible object is complex; and the conception which we form of it as a whole, is aided by the association of ideas. To perceive the force of this observation, it is necessary to recollect what was formerly said on the subject of attention. As we cannot at one instant attend to every point of the picture of an object on the retina, so I apprehend, we cannot at one instant form a conception of the whole of any visible object; but that our conception of the object as a whole, is the result of many conceptions. The association of ideas connects the different parts together, and presents them to the mind in their proper arrangement; and the various relations which these parts bear to one another, in point of situation, contribute greatly to strengthen the associations. It is some confirmation of this theory, that it is more easy to remember a succession of sounds, than any particular sound which we have heard, detached and unconnected.

The powers of conceiving visible objects, like all other powers that depend on the association of ideas may be wonderfully improved by habit. A person accustomed to drawing, retains a much more perfect notion of a building or of a landscape which he has seen, than one who has never practised that art. A portrait-painter traces the form of the human body from memory, with as little exertion of attention, as

he employs in writing the letters which compose his name.

In the power of conceiving colours, too, there are striking differences among individuals: and, indeed, I am inclined to suspect, that, in the greater number of instances, the supposed defects of sight in this respect ought to be ascribed rather to a defect in the power of conception. One thing is certain, that we often see men who are perfectly sensible of the difference between two colours, when they are presented to them, who cannot give names to these colours, with confidence, when they see them apart; and are perhaps apt to confound the one with the other. Such men, it should seem, feel the sensation of colour like other men when the object is present, but are incapable (probably in consequence of some early habit of inattention) to conceive the sensation distinctly when the object is removed. Without this power of conception, it is evidently impossible for them, however lively their sensations may be, to give a name to any colour; for the application of the name supposes not only a capacity of receiving the sensation, but a power of comparing it with one formerly felt. At the same time, I would not be understood by these observations to deny, that there are cases, in which there is a natural defect of the organ in the perception of colour. In some cases, perhaps, the sensation is not felt at all; and in others, the faintness of the sensation may be one cause of those habits of inattention, from which the incapacity of conception has arisen.

A talent for lively description, at least in the case of sensible objects, depends chiefly on the degree in which the describer possesses the power of conception. We may remark, even in common conversation, a striking difference among individuals in this respect. One man, in attempting to convey a notion of any object he has seen, seems to place it before him, and to paint from actual perception: another, although

not deficient in a ready elocution, finds himself in such a situation confused and embarrassed among a number of particulars imperfectly apprehended, which crowd into his mind without any just order and connection. Nor is it merely to the accuracy of our descriptions that this power is subservient: it contributes more than any thing else to render them striking and expressive to others, by guiding us to a selection of such circumstances as are most prominent and characteristical; insomuch that I think it may reasonably be doubted, if a person would not write a happier description of an object from the conception than from the actual perception of it. It has been often remarked, that the perfection of description does not consist in a minute specification of circumstances, but in a judicious selection of them; and that the best rule for making the selection is, to attend to the particulars that make the deepest impression on our own minds. When the object is actually before us, it is extremely difficult to compare the impressions which different circumstances produce; and the very thought of writing a description, would prevent the impressions which would otherwise take place. When we afterwards conceive the object, the representation of it we form to ourselves, however lively, is merely an outline; and is made up of those circumstances, which really struck us most at the moment; while others of less importance are obliterated. The impression, indeed, which a circumstance makes on the mind, will vary considerably with the degree of a person's taste; but I am inclined to think, that a man of lively conceptions, who paints from these, while his mind is yet warm from the original scene, can hardly fail to succeed in descriptive composition.

The facts and observations which I have now mentioned, are applicable to conception as distinguished from imagination. The two powers, however, are very nearly allied; and are frequently so blended,

that it is difficult to say, to which of the two, some particular operations of the mind are to be referred. There are also many general facts which hold equally with respect to both. The observations which follow, if they are well founded, are of this number, and might have been introduced with equal propriety under either article. I mention them here, as I shall have occasion to refer to them in the course of the following work, in treating of some subjects, which will naturally occur to our examination, before we have another opportunity of considering this part of our constitution.

It is a common, I believe I may say an universal, doctrine among logicians, that conception (or imagination, which is often used as synonymous with it) is attended with no belief of the existence of its object. "Perception," says Dr. Reid, "is attended with a belief of the present existence of its object; memory, with a belief of its past existence; but imagination is attended with no belief at all; and was therefore called by the school-men, *apprehensio simplex*."

It is with great diffidence, that I presume to call in question a principle, which has been so generally received; yet there are several circumstances which lead me to doubt of it. If it were a specifical distinction between perception and imagination, that the former is always attended with belief, and the latter with none; then the more lively our imagination were of any object, and the more completely that object occupied the attention, the less should we be apt to believe its existence; for it is reasonable to think, that when any of our powers is employed separately from the rest, and there is nothing to withdraw the attention from it, the laws which regulate its operation will be most obvious to our observation, and will be most completely discriminated from those which are characteristical of the other powers of the mind. So

very different, however is the fact, that it is matter of common remark, that when imagination is very lively, we are apt to aſcribe to its objects a real exiſtence, as in the caſe of dreaming or of madneſs; and we may add, in the caſe of thoſe who, in ſpite of their own general belief of the abſurdity of the vulgar ſtories of apparations, dare not truſt themſelves alone with their own imaginations in the dark. That imagination is in theſe inſtances attended with belief, we have all the evidence that the nature of the thing admits of; for we feel and act in the ſame manner as we ſhould do, if we believed that the objects of our attention were real; which is the only proof that metaphyſicians produce, or can produce, of the belief which accompanies perception.

In theſe caſes, the fact that I wiſh to eſtabliſh is ſo ſtriking, that it has never been called in queſtion; but in moſt caſes, the impreſſion which the objects of imagination make on the mind is ſo momentary, and is ſo immediately corrected by the ſurrounding objects of perception, that it has not time to influence our conduct. Hence we are apt to conclude on a ſuperficial view, that imagination is attended with no belief; and the concluſion is ſurely juſt in moſt caſes, if by belief we mean a permanent conviction which influences our conduct. But if the word is uſed in the ſtrict logical ſenſe, I am inclined to think, after the moſt careful attention to what I experience in myſelf, that the exerciſe both of conception and imagination is always accompanied with a belief that their objects exiſt.* When a painter

* As the foregoing reaſoning, though ſatisfactory to myſelf, has not appeared equally ſo to ſome of my friends; I ſhould wiſh the reader to conſider the remarks which I now offer, as amounting rather to a query, than a decided opinion.

May I take the liberty of adding, that one of the arguments which I have ſtated, in oppoſition to the common doctrine concerning imagination, appears to me to be authoriſ-

conceives the face and figure of an abſent friend, in order to draw his picture, he believes for the moment that his friend is before him. The belief,

ed, in ſome meaſure, by the following reaſoning of Dr. Reid's on a different ſubject? In conſidering thoſe ſudden burſts of paſſion, which lead us to wreck our vengeance upon inanimate objects, he endeavours to ſhew, that we have, in ſuch caſes, a momentary belief that the object is alive. "I confeſs," ſays he, "it ſeems to me impoſſible, that there "ſhould be reſentment againſt a thing, which, at that very "moment. is conſidered as inanimate; and conſequently in- "capable either of intending hurt, or of being puniſhed.— "There muſt, therefore, I conceive, be ſome momentary "notion or conception, that the object of our reſentment is "capable of puniſhment."

In another paſſage, the ſame author remarks, that "men "may be governed, in their practice, by a belief, which, in "ſpeculation they reject."

"I knew a man," ſays he, "who was as much convinced "as any man, of the folly of the popular belief of appari- "tions in the dark: yet he could not ſleep in a room alone, "nor go alone into a room in the dark. Can it be ſaid, that "his fear did not imply a belief of danger? This is impoſſible. "Yet his philoſophy convinced him, that he was in no more "danger in the dark when alone, than with company. Here "an unreaſonable belief, which was merely a prejudice of the "nurſery, ſtuck ſo faſt as to govern his conduct, in oppoſi- "tion to his ſpeculative belief as a philoſopher, and a man "of ſenſe."

"Theſe are a few perſons who can look down from the "battlement of a very high tower without fear; while "their reaſon convinces them, that they are in no more dan- "ger than when ſtanding upon the ground."

Theſe facts are eaſily explicable, on the ſuppoſition, that whenever the objects of imagination engroſs the attention wholly, (which they may do, in oppoſition to any ſpeculative opinion with reſpect to their non-exiſtence,) they produce a temporary belief of their reality.—Indeed, in the laſt paſſage, Dr. Reid ſeems to admit this to be the caſe; for, to ſay that a man who has a dread of apparitions, believes himſelf to be in danger when left alone in the dark, is to ſay, in other words, that he believes (for the time) that the objects of his imagination are real.

indeed, is only momentary; for it is extremely difficult, in our waking hours, to keep up a steady and undivided attention to any object we conceive or imagine; and, as soon as the conception or the imagination is over, the belief which attended is at an end. We find that we can recal and dismiss the objects of these powers at pleasure; and therefore we learn to consider them as creations of of the mind, which have no separate and independent existence.

The compatibility of such a speculative disbelief, as I have here supposed, of the existence of an object, with a contrary momentary belief, may perhaps be more readily admitted, if the following experiment be considered with attention.

Suppose a lighted candle to be so placed before a concave mirror, that the image of the flame may be seen between the mirror and the eye of the observer. In this case, a person who is acquainted with the principles of optics, or who has seen the experiment made before, has so strong a speculative conviction of the non existence of the object in that place where he sees its image, that he would not hesitate to put his finger to the apparent flame, without any apprehension of injury.

Suppose, however, that in such a case it were possible for the observer to banish completely from his thoughts all the circumstances of the experiment, and to confine his attention wholly to his perception; would he not believe the image to be a reality; and would he not expect the same consequences from touching it, as from touching a real body in a state of inflammation? If these questions be answered in the affirmative, it will follow; that the effect of the perception, while it engages the attention completely to itself, is to produce belief; and that the speculative disbelief, according to which our conduct in ordinary cases is regulated, is the result of a recollection of the

various circumſtances with which the experiment is accompanied.

If, in ſuch a caſe as I have now ſuppoſed, the appearance exhibited to us is of ſuch a nature, as to threaten us with any immediate danger, the effect is the ſame as if we were to baniſh from our thoughts the circumſtances of the experiment, and to limit our attention ſolely to what we perceive: for here the belief, which is the firſt effect of the perception, alarms our fears, and influences our conduct, before reflexion has time to operate. In a very ingenious optical deception, which was lately exhibited in this city, the image of a flower was preſented to the ſpectator; and when he was about to lay hold of it with his hand, a ſtroke was aimed at him by the image of a dagger. If a perſon who has ſeen this experiment is aſked, in his cooler moments, whether or not he believes the dagger which he ſaw to be real, he will readily anſwer in the negative; and yet the accurate ſtatement of the fact undoubtedly is, that the firſt and proper effect of the perception is belief; and that the diſbelief he feels, is the effect of ſubſequent reflexion.

The ſpeculative diſbelief which we feel with reſpect to the illuſions of imagination, I conceive to be analogous to our ſpeculative diſbelief of the exiſtence of the object exhibited to the eye in this optical deception; as our belief that the illuſions of imagination are real, while that faculty occupies the mind excluſively, is analogous to the belief produced by the optical deception while the attention is limited to our perception, and is withdrawn from the circumſtances in which the experiment is made.*

* It may appear to ſome readers rather trifling to add, and yet to others the remark may not be altogether ſuperfluous, that it is not my intention to inſinuate by the foregoing illuſtrations, that the relation between perception and imagination has the moſt diſtant analogy to that between the perception of the object, and the perception of its optical image.

These observations lead me to take notice of a circumstance with respect to the belief accompanying perception, which it appears to me necessary to state, in order to render Dr. Reid's doctrine on that subject completely satisfactory. He has shewn, that certain sensations are, by a law of our nature, accompanied with an irresistible belief of the existence of certain qualities of external objects. But this law extends no farther than to the present existence of the quality; that is, to its existence while we feel the corresponding sensation. Whence is it then, that we ascribe to the quality, an existence independent of our perception? I apprehend we learn to do this by experience alone. We find that we cannot, as in the case of imagination, dismiss or recall the perception of an external object. If I open my eyes, I cannot prevent myself from seeing the prospect which is before me. I learn, therefore, to ascribe to the objects of my senses, not only an existence at the time I perceive them, but an independent and a permanent existence.

It is a strong confirmation of this doctrine, that in sleep, when (as I flatter myself I shall afterward shew) the influence of the will over the train of our thoughts is suspended, and when, of consequence, the time of their continuance in the mind is not regulated by us, we ascribe to the objects of imagination an independent and permanent existence, as we do when awake to the objects of perception. The same thing happens in those kinds of madness, in which a particular idea takes possession of the attention, and occupies it to the exclusion of every thing else. Indeed, madness seems in many cases to arise entirely from a suspension of the influence of the will over the succession of our thoughts; in consequence of which, the objects of imagination appear to have an existence independent of our volition; and are therefore, agreeably to the foregoing doctrine, mistaken for realities.

Numberleſs other illuſtrations of the ſame general fact occur to me; but the following is, I think, one of the moſt ſtriking. I mention it, in preference to the reſt, as it appears to me to connect the doctrine in queſtion with ſome principles which are now univerſally admitted among philoſophers.

The diſtinction between the original and the acquired perceptions of ſight, is familiarly known to every one who has the ſlighteſt acquaintance with the elements of optics. That this ſenſe, prior to experience, conveys to us the notion of extenſion in two dimenſions only, and that it gives us no information concerning the diſtances at which objects are placed from the eye, are propoſitions which nobody, I preſume, in the preſent ſtate of ſcience will be diſpoſed to controvert. In what manner we are enabled, by a compariſon between the perceptions of ſight and thoſe of touch, to extend the province of the former ſenſe to a variety of qualities originally perceived by the latter ſenſe only, optical writers have explained at great length; but it is not neceſſary for my preſent purpoſe to enter into any particular details with reſpect to their reaſonings on the ſubject. It is ſufficient for me to remark, that, according to the received doctrine, the original perceptions of ſight become, in conſequence of experience, ſigns of the tangible qualities of external objects and of the diſtances at which they are placed from the organ; and that, although the knowledge we obtain, in this manner, of theſe qualities and diſtances, ſeems, from early and conſtant habits, to be an inſtantaneous perception; yet, in many caſes it implies an exerciſe of the judgment, being founded on a compariſon of a variety of different circumſtances.

From theſe principles, it is an obvious conſequence, that the knowledge we obtain, by the eye, of the tangible qualities of bodies, involves the exerciſe of conception, according to the definition of that

power which has already been given. In ordinary diſcourſe, indeed, we aſcribe this knowledge, on account of the inſtantaneouſneſs with which it is obtained, to the power of perception; but if the common doctrine on the ſubject be juſt, it is the reſult of a complex operation of the mind; comprehending, firſt, the perception of thoſe qualities, which are the proper and original objects of ſight; and, ſecondly, the conception of thoſe tangible qualities of which the original perceptions of ſight are found from experience to be the ſigns. The notions, therefore, we form, by means of the eye, of the tangible qualities of bodies, and of the diſtances of theſe objects from the organ, are mere conceptions; ſtrongly, and indeed indiſſolubly, aſſociated, by early and conſtant habit, with the original perceptions of ſight.

When we open our eyes on a magnificent proſpect, the various diſtances at which all its different parts are placed from the eye, and the immenſe extent of the whole ſcene before us, ſeem to be perceived as immediately, and as inſtantaneouſly, by the mind, as the coloured ſurface which is painted on the retina. The truth, however, unqueſtionably is, that this variety of diſtance, and this immenſity of extent, are not objects of ſenſe but of conception; and the notions we form of them when our eyes are open, differ from thoſe we ſhould form of them with our eyes ſhut, only in this, that they are kept ſteadily in the view of the mind, by being ſtrongly aſſociated with the ſenſations of colour, and with the original perceptions of ſight.—This obſervation will be the more readily admitted, if it is conſidered, that, by a ſkilful imitation of a natural landſcape in a common ſhew-box, the mind may be led to form the ſame notions of variety of diſtance, and even of immenſe extent, as if the original ſcene were preſented to our ſenſes: and that, although, in this caſe, we have a ſpeculative conviction that

the ſphere of our viſion only extends to a few inches; yet ſo ſtrong is the aſſociation between the original perceptions of ſight, and the conceptions which they habitually produce, that it is not poſſible for us by any effort of our will, to prevent theſe conceptions from taking place.

From theſe obſervations it appears, that when the conceptions of the mind are rendered ſteady and permanent, by being ſtrongly aſſociated with any ſenſible impreſſion, they command our belief no leſs than our actual perceptions; and, therefore, if it were poſſible for us, with our eyes ſhut, to keep up, for a length of time, the conception of any ſenſible object, we ſhould, as long as this effort continued, believe that the object was preſent to our ſenſes.

It appears to me to be no ſlight confirmation of theſe remarks, that, although, in the dark, the illuſions of imagination are much more liable to be miſtaken for realities, than when their momentary effects on the belief are continally check'd and corrected by the objects which the light of day preſents to our perceptions; yet, even total darkneſs is not ſo alarming to a perſon impreſſed with the vulgar ſtories of apparitions, as a faint and doubtful twilight, which affords to the conceptions an opportunity of fixing and prolonging their exiſtence, by attaching themſelves to ſomething which is obſcurely exhibited to the eye. In like manner, when we look through a fog, we are frequently apt to miſtake a crow for a man; and the conception, we have, upon ſuch an occaſion, of the human figure, is much more diſtinct and much more ſteady, than it would be poſſible for us to form if we had no ſenſible object before us; inſomuch that when on a more attentive obſervation, the crow ſhrinks to its own dimenſions, we find it impoſſible, by any effort, to conjure up the phantom which a moment before we ſeemed to perceive.

If theſe obſervations are admitted, the effects which

exhibitions of fictitious diſtreſs produce on the mind will appear leſs wonderful, than they are ſuppoſed to be. During the repreſentation of a tragedy, I acknowledge that we have a general conviction that the whole is a fiction; but, I believe, it will be found, that the violent emotions which are ſometimes produced by the diſtreſſes of the ſtage, take their riſe, in moſt caſes, from a momentary belief, that the diſtreſſes are real. I ſay, in moſt caſes; becauſe, I acknowledge, that independently of any ſuch belief, there is ſomething contagious in a faithful expreſſion of any of the paſſions.

The emotions produced by tragedy are, upon this ſuppoſition, ſomewhat analogous to the dread we feel when we look down from the battlement of a tower.* In both caſes, we have a general conviction, that there is no ground for the feelings we experience; but the momentary influences of imagination are ſo powerful as to produce theſe feelings, before reflexion has time to come to our relief.

* With reſpect to the dread which we feel in looking down from the battlement of a tower, it is curious to remark the effects of habit in gradually deſtroying it. The manner in which habit operates in this caſe, ſeems to be by giving us a command over our thoughts, ſo as to enable us to withdraw our attention from the precipice before us, and direct it to any other object at pleaſure. It is thus that the maſon and the ſailor not only can take precautions for their own ſafety, but remain completely maſters of themſelves in ſituations where other men, engroſſed with their imaginary danger, would experience a total ſuſpenſion of their faculties. Any ſtrong paſſion which occupies the mind produces for the moment, the ſame effect with habit. A perſon alarmed with the apprehenſion of fire has been known to eſcape from the top of a houſe, by a path which, at another time, he would have conſidered as impracticable; and ſoldiers, in mounting a breach, are ſaid to have ſometimes found their way to the enemy, by a route which appeared inacceſſible after their violent paſſions had ſubſided.

CHAPTER FOURTH.

OF ABSTRACTION.

SECTION I.

General Obſervations on this Faculty of the Mind.

THE origin of appellatives, or, in other words, the origin of thoſe claſſes of objects which in the ſchools, are called *genera*, and *ſpecies*, has been conſidered by ſome philoſophers as one of the moſt difficult problems in metaphyſics. The account of it which is given by Mr. Smith, in his Diſſertation on the Origin of Languages, appears to me to be equally ſimple and ſatisfactory.

"The aſſignation," (ſays he) "of particular "names, to denote particular objects; that is, the "inſtitution of nouns ſubſtantive; would probably "be one of the firſt ſteps towards the formation of "Language. The particular cave, whoſe covering "ſheltered the ſavage from the weather; the par- "ticular tree, whoſe fruit relieved his hunger; the "particular fountain, whoſe water allayed his thirſt; "would firſt be denominated by the words, cave, "tree, fountain; or by whatever other appellations "he might think proper, in that primitive jargon, "to mark them. Afterwards, when the more en- "larged experience of this ſavage had led him to "obſerve, and his neceſſary occaſions obliged him "to make mention of, other caves, and other trees "and other fountains; he would naturally beſtow "upon each of thoſe new objects, the ſame name "by which he had been accuſtomed to expreſs the "ſimilar object he was firſt acquainted with. And "thus, thoſe words, which were originally the prop-

"er names of individuals, would each of them in-
"ſenſibly become the common name of a multi-
"tude."*

"It is this application" (he continues) "of the
"name of an individual to a great number of ob-
"jects, whoſe reſemblance naturally recals the idea
"of that individual, and of the name which expreſſes
"it, that ſeems originally to have given occaſion to
"the formation of thoſe claſſes, and aſſortments,
"which, in the ſchools, are called *genera* and *ſpecies*;
"and of which the ingenious and eloquent Rouſ-
"ſeau finds himſelf ſo much at a loſs to account for
"the origin. What conſtitutes a *ſpecies*, is merely
"a number of objects, bearing a certain degree of
"reſemblance to one another; and, on that account
"denominated by a ſingle appellation, which may
"be applied to expreſs any one of them."†

This view of the natural progreſs of the mind in forming claſſification of external objects, receives ſome illuſtration from a fact mentioned by Captain Cook in his account of a ſmall iſland called Wateeoo which he viſited in ſailing from New Zealand to the Friendly Iſlands. "The inhabitants," ſays he, "were afraid to come near our cows and horſes; "nor did they form the leaſt conception of their "nature. But the ſheep and goats did not ſurpaſs "the limits of their ideas; for they gave us to un-"derſtand that they knew them to be birds. It "will appear," he adds, "rather incredible, that

* The ſame account of the progreſs of the mind in the formation of *genera*, is given by the Abbé de Condillac.

"Un enfant appelle du nom d'*Arbre* le premier arbre "que nous lui montrons. Un ſecond arbre qu'il voit enſuite "lui rapelle la même idée; il lui donne le même nom; de "même a un troiſième, à un quatrième, et volià le mot d'-"*Arbre* donné d'abord à un individu, qui devient pour lui "un nom de claſſe ou de genre, une idée abſtraite qui com-"prend tous les arbres en général."

† Diſſertation on the Origin of Languages, annexed to Mr. Smith's Theory of Moral Sentiments.

"human ignorance could never make ſo ſtrange a "miſtake, there not being the moſt diſtant ſimili- "tude between a ſheep or goat, and any winged "animal. But theſe people ſeemed to know no- "thing of the exiſtence of any other land animals, "beſides hogs, dogs, and birds. Our ſheep and "goats, they could ſee, were very different crea- "tures from the two firſt, and therefore they in- "ferred that they muſt belong to the latter claſs, "in which they knew that there is a conſiderable "variety of ſpecies."—I would add to Cook's very judicious remarks, that the miſtake of theſe iſland- ers probably did not ariſe from their conſidering a ſheep or a goat as bearing a more ſtriking reſem- blance to a bird, than to the two claſſes of quadru- peds with which they were acquainted; but to the want of a generic word, ſuch as *quadruped*, compre- hending theſe two ſpecies; which men in their ſitu- ation would no more be led to form, than a perſon who had only ſeen one individual of each ſpecies, would think of an appellative to expreſs both, in- ſtead of applying a proper name to each. In con- ſequence of the variety of birds, it appears, that they had a generic name comprehending all of them to which it was not unnatural for them to refer any new animal they met with.

The claſſification of different objects ſuppoſes a power of attending to ſome of their qualities or at- tributes, without attending to the reſt; for no two objects are to be found without ſome ſpecific differ- ence; and no aſſortment or arrangement can be formed among things not perfectly alike, but by loſing ſight of their diſtinguiſhing peculiarities, and limiting the attention to thoſe attributes which be- long to them in common. Indeed, without this power of attending ſeparately to things which our ſenſes preſent to us in a ſtate of union, we never could have had the idea of *number*; for, before we can conſider different objects as forming a multi-

tude, it is neceſſary that we ſhould be able to apply to all of them one common name; or, in other words, that we ſhould reduce them all to the ſame genus. The various objects, for example, animate and inanimate, which are, at this moment, before me, I may claſs and number in a variety of different ways, according to the view of them that I chuſe to take. I may reckon ſucceſſively the number of ſheep, of cows, of horſes, of elms, of oaks, of beeches; or I may firſt reckon the number of animals, and then the number of trees; or I may at once reckon the number of all the organiſed ſubſtances which my ſenſes preſent to me. But whatever be the principle on which my claſſification proceeds, it is evident, that the objects numbered together, muſt be conſidered in thoſe reſpects only in which they agree with each other; and that, if I had no power of ſeparating the combination of ſenſe, I never could have conceived them as forming a plurality.

This power of conſidering certain qualities or attributes of an object apart from the reſt; or, as I would rather chuſe to define it, the power which the underſtanding has, of ſeparating the combinations which are preſented to it, is diſtinguiſhed by logicians by the name of *abſtraction*. It has been ſuppoſed by ſome philoſophers, (with what probability I ſhall not now inquire) to form the characteriſtical attribute of a rational nature. That it is one of the moſt important of all our faculties, and very intimately connected with the exerciſe of our reaſoning powers, is beyond diſpute. And I flatter myſelf, it will appear from the ſequel of this chapter, how much the proper management of it conduces to the ſucceſs of our philoſophical purſuits, and of our general conduct in life.

The ſubſerviency of abſtraction to the power of reaſoning, and alſo, its ſubſerviency to the exertions of a poetical or creative imagination, ſhall be after-

wards fully illuſtrated. At preſent, it is ſufficient for my pupoſe to remark, that as abſtraction is the ground work of claſſification, without this faculty of the mind we ſhould have been perfectly incapable of general ſpeculation, and all our knowledge muſt neceſſarily have been limited to individuals; and that ſome of the moſt uſeful branches of ſcience, particularly the different branches of mathematics, in which the very ſubjects of our reaſoning are abſtractions of the underſtanding, could never poſſibly had an exiſtence. With reſpect to the ſubſerviency of this faculty to poetical imagination, it is no leſs obvious, that, as as the poet is ſupplied with all his materials by experience; and as his province is limited to combine and modify things which really exiſt, ſo as to produce new wholes of his own; ſo every exertion which he thus makes of his powers, preſuppoſes the exerciſe of abſtraction in decompoſing and ſeparating actual combinations. And it was on this account that, in the chapter on Conception, I was led to make a diſtinction between that faculty, which is evidently ſimple and uncompounded, and the power of imagination, which (at leaſt in the ſenſe in which I employ the word in theſe inquiries) is the reſult of a combination of various other powers.

I have introduced theſe remarks, in order to point out a difference between the abſtractions which are ſubſervient to reaſoning, and thoſe which are ſubſervient to imagination. And, if I am not miſtaken, it is a diſtinction which has not been ſufficiently attended to by ſome writers of eminence. In every inſtance in which imagination is employed in forming new wholes, by decompounding and combining the perceptions of ſenſe, it is evidently neceſſary that the poet or the painter ſhould be able to ſtate to himſelf the circumſtances abſtracted, as ſeparate objects of conception. But this is by no means requiſite in every caſe in which abſtraction is

ſubſervient to the power of reaſoning; for it frequently happens, that we can reaſon concerning one quality or property of an object abſtracted from the reſt, while, at the ſame time, we find it impoſſible to conceive it ſeparately. Thus, I can reaſon concerning extenſion and figure, without any reference to colour; although it may be doubted, if a perſon poſſeſſed of ſight can make extenſion and figure ſteady objects of conception, without connecting with them one colour or another. Nor is this always owing (as it is in the inſtance now mentioned) merely to the aſſociation of ideas; for there are caſes, in which we can reaſon concerning things ſeparately, which it is impoſſible for us to ſuppoſe any being ſo conſtituted as to conceive apart. Thus, we can reaſon concerning length, abſtracted from any other dimenſion; although, ſurely, no underſtanding can make length, without breadth, an object of conception. And, by the way, this leads me to take notice of an error, which mathematical teachers are apt to commit, in explaining the firſt principles of geometry. By dwelling long on Euclid's firſt definitions, they lead the ſtudent to ſuppoſe thet they relate to notions which are extremely myſterious; and to ſtrain powers in fruitleſs attempts to conceive, what cannot poſſibly be made an object of conception. If theſe definitions were omitted, or very ſlightly touched upon, and the attention at once directed to geometrical reaſoning, the ſtudent would immediately perceive, that although the lines in the diagrams are really extended in two dimenſions, yet that the demonſtrations relate only to one of them; and that the human underſtanding has the faculty of reaſoning concerning things ſeparately, which are always preſented to us, both by our powers of perception and conception, in a ſtate of union. Such abſtractions, in truth, are familiar to the moſt illiterate of mankind; and it is in this very way that they are inſenſibly

formed. When a tradeſman ſpeaks of the length of a room, in contradiſtinction to its breadth; or when he ſpeaks of the diſtance between any two objects; he forms exactly the ſame abſtraction, which is referred to by Euclid in his ſecond definition; and which moſt of his commentators have thought it neceſſary to illuſtrate by prolix metaphyſical diſquiſitions.

I ſhall only obſerve farther, with reſpect to the nature and province of this faculty of the mind, that notwithſtanding its eſſential ſubſerviency to every act of claſſification, yet it might have been exerciſed, although we had only been acquainted with one individual object. Although, for example, we had never ſeen but one roſe, we might ſtill have been able to attend to its colour, without thinking of its other properties. This has led ſome philoſophers to ſuppoſe, that another faculty beſides abſtraction, to which they have given the name of generaliſation, is neceſſary to account for the formation of genera and ſpecies; and they have endeavoured to ſhew, that altho' generaliſation without abſtraction is impoſſible; yet thatwe might have been ſo formed, as to be able to abſtract, without being capable of generaliſing. The grounds of this opinion, it is not neceſſary for me to examine, for any of the purpoſes which I have at preſent in view.

SECTION II.

Of the Objects of our Thoughts, when we employ general Terms.

FROM the account which was given in a former chapter, of the common theories of perception, it appears to have been a prevailing opinion

among philoſophers, that the qualities of external objects are perceived by means of images or ſpecies tranſmitted to the mind by the organs of ſenſe: an opinion of which I already endeavoured to trace the origin, from certain natural prejudices ſuggeſted by the phenomena of the material world. The ſame train of thinking has led them to ſuppoſe that, in the caſe of all other intellectual operations, there exiſt in the mind certain ideas diſtinct from the mind itſelf; and that theſe ideas are the objects about which our thoughts are employed. When I recollect, for example, the appearance of an abſent friend, it is ſuppoſed that the immediate objects of my thought is an *idea* of my friend; which I at firſt received by my ſenſes, and which I have been enabled to retain in my mind by the faculty of memory. When I form to myſelf an imaginary combination by an effort of poetical invention, it is ſuppoſed, in like manner, that the parts which I combine, exiſted previouſly in the mind; and furniſh the materials on which it is the province of imagination to operate. It is to Dr. Reid we owe the important remark, that all theſe notions are wholly hypothetical; that it is impoſſible to produce a ſhadow of evidence in ſupport of them; and that, even although we were to admit their truth, they would not render the phenomena in queſtion more intelligible. According to his principles, therefore, we have no ground for ſuppoſing, that in any one operation of the mind, there exiſts in it an object diſtinct from the mind itſelf; and all the common expreſſions which involve ſuch a ſuppoſition, are to be conſidered as unmeaning circumlocutions, which ſerve only to diſguiſe from us the real hiſtory of the intellectual phenomena.*

* In order to prevent miſapprehenſions of Dr. Reid's meaning, in his reaſonings againſt the ideal theory, it may

" We are at a loſs to know," (ſays this excellent philoſopher,) " how we perceive diſtant objects ;

be neceſſary to explain a little more fully than I have done in the text, in what ſenſe he calls in queſtion the exiſtence of *ideas* : for the meaning which this word is employed to convey in popular diſcourſe, differs widely from that which is annexed to it by the philoſophers whoſe opinion he controverts. This explanation I ſhall give in his own words :

" In popular language, idea ſignifies the ſame thing as " conception, apprehenſion, notion. To have an idea of " any thing, is to conceive it. To have a diſtinct idea, is to " conceive it diſtinctly. To have no idea of it, is not to con- " ceive it at all.—When the word idea is taken in this pop- " ular ſenſe, no man can poſſibly doubt whether he has " ideas."

" According to the philoſophical meaning of the word " *idea*, it does not ſignify that act of the mind which we call " thought, or conception, but ſome *object* of thought. Of " theſe objects of thought called ideas, different ſects of " philoſophers have given very different accounts."

" Some have held them to be ſelf-exiſtent ; others to be in " the divine mind ; others in our own minds ; and others " in the brain, or ſenſorium."

" The Peripatetick ſyſtem of ſpecies and phantaſms, as " well as the Platonick ſyſtem of ideas, is grounded upon " this principle, that in every kind of thought, there muſt " be ſome object that really exiſts ; in every operation of " the mind, ſomething to work upon. Whether this imme- " diate object be called an idea with Plato, or a phantaſm " or ſpecies with Ariſtotle ; whether it be eternal and un- " created, or produced by the impreſſions of external objects, " is of no conſequence in the preſent argument."—Ibid.

" So much is this opinion fixed in the minds of philoſo- " phers, that, I doubt not but it will appear to moſt, a very " ſtrange paradox, or rather a contradiction, that men ſhould " think without ideas. But this appearance of contradic- " tion ariſes from the ambiguity of the word idea. If the " idea of a thing means only the thought of it, which is the " moſt common meaning of the word, to think without ideas, " is to think without thought ; which is undoubtedly a con- " tradiction. But an idea, according to the definition given " of it by philoſophers, is not thought, but an object of " thought, which really exiſts, and is perceived, &c."—Ibid.

" how we remember things paſt; how we imagine " things that have no exiſtence. Ideas in the mind " ſeem to account for all theſe operations: they are " all by the means of ideas reduced to one opera- " tion; to a kind of feeling, or immediate percep- " tion of things preſent, and in contact with the per- " cipient; and feeling is an operation ſo familiar, " that we think it needs no explanation, but may " ſerve to explain other operations."

" But this feeling, or immediate perception, is as " difficult to be comprehended, as the things which " we pretend to explain by it. Two things may " be in contact, without any feeling or perception; " there muſt therefore be in the percipient, a power " to feel, or to perceive. How this power is produ- " ced, and how it operates, is quite beyond the " reach of our knowledge. As little can we know, " whether this power muſt be limited to things " preſent, and in contact with us. Neither can " any man pretend to prove, that the Being, who " gave us the power to perceive things preſent, " may not give us the power to perceive things " diſtant, to remember things paſt, and to conceive " things that never exiſted."*

In another part of his work, Dr. Reid has occaſion to trace the origin of the prejudice which has led philoſophers to ſuppoſe, that, in all the operations of the underſtanding, there muſt be an object of thought, which really exiſts while we think of it. His remarks on this ſubject, which are highly ingenious and ſatisfactory, are contained in his account of the different theories concerning conception.†

I have only to add, that when, in this work, I make uſe of the word idea in ſtating my own opinions, I employ it uniformly in the popular ſenſe, and not in the philoſophical ſenſe, as now explained; it would be better, perhaps to avoid it altogether; but I have found it difficult to do ſo, without adopting unuſual modes of expreſſion. I flatter myſelf that I have uſed it with due caution.

* Eſſays on the Intellectual Powers.

† Eſſays on the Intellectual Powers.

As in all the ancient metaphyſical ſyſtems it was taken for granted, (probably from the analogy of our external perceptions) that every exertion of thought implies the exiſtence of an object diſtinct from the thinking being; it naturally occurred, as a very curious queſtion, What is the immediate object of our attention, when we are engaged in any general ſpeculation? or, in other words, what is the nature of the idea correſponding to a general term? When I think of any particular object which I have formerly perceived, ſuch a particular friend, a particular tree, or a particular mountain, I can comprehend what is meant by a picture or repreſentation of ſuch objects; and therefore the explanation given by the ideal theory of that act of the mind which we formerly called Conception, if not perfectly ſatisfactory, is at leaſt not wholly unintelligible. But what account ſhall we give, upon the principles of this theory, of the objects of my thoughts, when I employ the words, friend, tree, mountain, as generic terms? For, that all the things I have ever perceived are individuals; and conſequently, that the ideas denoted by general words, (if ſuch ideas exiſt) are not copied from any originals that have fallen under my obſervation; is not only ſelf-evident, but almoſt an identical propoſition.

In anſwer to this queſtion the Platoniſts, and, at a ſtill earlier period, the Pythagoreans, taught, that although theſe univerſal ideas are not copied from any objects perceivable by ſenſe, yet that they have an exiſtence independent of the human mind, and are no more to be confounded with the underſtanding, of which they are the proper objects, than material things are to be confounded with our powers of external perception: that, as all the individuals which compoſe a genus, muſt poſſeſs ſomething in common; and as it is in conſequence of this, that they belong to that genus, and are diſtinguiſhable by the ſame name, this common thing forms the

eſſence of each; and is the object of the underſtanding, when we reaſon concerning the genus. They maintained alſo, that this common eſſence,* notwithſtanding its inſeparable union with a multitude of different individuals, is in itſelf one, and indiviſible.

On moſt of theſe points, the philoſophy of Ariſtotle ſeems to have coincided very nearly with that of Plato. The language, however, which theſe philoſophers employed on this ſubject was different, and gave to their doctrines the appearance of a wider diverſity than probably exiſted between their opinions. While Plato was led, by his paſſion for the marvellous and the myſterious, to inſiſt on the incomprehenſible union of the ſame idea or eſſence, with a number of individuals, without multiplication or diviſion;† Ariſtotle, more cautious and aiming at greater perſpicuity, contented himſelf with ſaying that all individuals are compoſed of matter and form; and that it is in conſequence of poſſeſſing a common form, that different individuals belong to the ſame genus. But they both agreed, that, as the matter, or the individual natures of ob-

* In this very imperfect ſketch of the opinions of the ancients concarning univerſals, I have ſubſtituted, inſtead of the word *idea*, the word *eſſence*, as better fitted to convey to a modern reader the true import of Plato's expreſſions. The word *eſſentia* is ſaid to have been firſt employed by Cicero; and it was afterwards adopted by the ſchoolmen, in the ſame ſenſe in which the Platoniſts uſed the word *idea*. See Dr. REID's Eſſays on the Intellectual Powers.

† "The idea of a thing," (ſays Plato) "is that which "makes *one* of the *many*; which, preſerving the unity and "integrity of its own nature, runs through and mixes with "things infinite in number; and yet however multiform it "may appear, is always the ſame: ſo that by it we find out "and diſcriminate the thing, whatever ſhapes it may aſſume, "and under whatever diſguiſe it may conceal itſelf."—— PLATO in PHILEBO; (quoted by the Author of the Origin and Progreſs of Language, vol. i. p. 100, 2d edit.)

jects were perceived by ſenſe; ſo the general idea, or eſſence, or form, was perceived by the intellect; and that, at the attention of the vulgar was chiefly engroſſed with the former, ſo the latter furniſhed to the philoſopher the materials of his ſpeculations.

The chief difference between the opinions of Plato and Ariſtotle on the ſubject of the ideas, related to the mode of their exiſtence. That the matter of which all things are made, exiſted from eternity, was a principle which both admitted; but Plato farther taught, that, of every ſpecies of things, there is an idea or form which alſo exiſted from eternity; and that this idea is the exemplar or model according to which the individuals of the ſpecies were made; whereas Ariſtotle held, that, although matter may exiſt without form, yet that forms could not exiſt without matter.*

The doctrine of the Stoics concerning univerſals, differed widely from thoſe both of Plato and Ariſtotle, and ſeems to have approached to a ſpecula-

* In this account of the difference between Plato and Ariſtotle on the ſubject of ideas, I have chiefly followed Brucker, whoſe very laborious reſearches with reſpect to this article of the hiſtory of philoſophy are well known. In ſtating the diſtinction, however, I have confined myſelf to as general terms as poſſible; as the ſubject is involved in much obſcurity, and has divided the opinions of very eminent writers. The reader will find the reſult of Brucker's inquiries, in his own words, in note [F].

The authority of Brucker, in this inſtance, has the more weight with me, as it coincides in the moſt material reſpects with that of Dr. Reid. See his Eſſays on the Intellectual Powers of man, and the concluſion of his Inquiry into the Human Mind.

A very different account of Ariſtotle's doctrine, in thoſe particulars in which it is commonly ſuppoſed to differ from that of Plato, is given by two modern writers of great learning, whoſe opinions are juſtly entitled to much reſpect, from their familiar acquaintance with Ariſtotle's latter Commentators of the Alexandrian School.——See Origin and Progreſs of Language, vol i. and HARRIS's Hermes.

tion which, is commonly ſuppoſed to be of a more recent origin, and which an eminent philoſopher of the preſent age has ranked among the diſcoveries which do the greateſt honour to modern genius.*

Whether this doctrine of the Stoics coincided entirely with that of the Nominaliſts, (whoſe opinions I ſhall afterwards endeavour to explain) or whether it did not reſemble more, a doctrine maintained by another ſect of ſchoolmen called Conceptualiſts, I ſhall not inquire. The determination of this queſtion is intereſting only to men of erudition; for the knowledge we poſſeſs of this part of the Stoical philoſophy, is too imperfect to aſſiſt us in the farther proſecution of the argument, or even to diminiſh the merit of thoſe philoſophers who have, in modern times, been led to ſimilar concluſions.†

As it is not my object, in this work, to enter into hiſtorical details, any farther than is neceſſary for illuſtrating the ſubjects of which I treat, I ſhall paſs over the various attempts which were made by the Eclectic philoſophers, (a ſect which aroſe at Alexandria about the beginning of the third century) to reconcile the doctrines of Plato and Ariſtotle concerning ideas. The endleſs difficulties, it would appear, to which their ſpeculations led, induced, at laſt the more curtious & modeſt inquirers to baniſh them

It is of no conſequence, for any of the purpoſes which I have at preſent in view, what opinion we form on this much controverted point of philoſophical hiſtory. In ſo far as the ideal theory was an attempt to explain the manner in which our general ſpeculations are carried on, it is agreed on all hands, that the doctrines of Plato and Ariſtotle were eſſentially the ſame; and accordingly what I have ſaid on that ſubject, coincides entirely with a paſſage which the reader will find in "Origin and progreſs of Language," vol. i. p. 38. 2d edit.

* Treatiſe of human nature, book i. part i. ſect. 7.

† See note [G].

entirely from Dialectics, and to content themselves with studying the arrangements or classifications of universals, which the ancient philosophers had made without engaging in any metaphysical disquisitions concerning their nature. Porphyry, in particular, although he tells us, that he had speculated much on this subject; yet, in his Introduction to Aristotle's Categories, waves the consideration of it as obscure and intricate. On such questions as these; "Whether genera and species exist in nature, or are "only conceptions of the Human Mind; and (on "the supposition that they exist in nature) whether "they are inherent in the objects of sense, or dis-"joined from them?" he declines giving any determination.

This passage in Porphyry's Introduction is an object of curiosity; as, by a singular concurrence of circumstances, it served to perpetuate the memory of a controversy from which it was the author's intention to divert the inquiries of his readers. Amidst the disorders produced by the irruptions of the Barbarians, the knowledge of the Greek tongue was almost entirely lost; and the studies of philosophers were confined to Latin versions of Aristotle's Dialectics, and of Porphyry's Introduction concerning the Categories. With men who had a relish for such disquisitions, it is probable that the passage already quoted from Porphyry, would have a tendency rather to excite than to damp curiosity; and accordingly, we have reason to believe, that the controversy to which it relates continued, during the dark ages to form a favourite subject of discussion. The opinion which was prevalent was, (to use the scholastic language of the times,) that universals do not exist *before* things, nor *after* things, but *in* things; that is, (If I may be allowed to attempt a commentary upon expressions to which I do not pretend to be able to annex very precise notions,) universal ideas have not (as Plato thought) an existence sepa-

rable from individual objects; and, therefore, they could not have existed prior to them in the order of time; nor yet, (according to the doctrine of the Stoics,) are they mere conceptions of the mind, formed in consequence of an examination and comparison of particulars: but these ideas or forms are from eternity united inseparably with that matter of which things consist; or, as the Aristotelians sometimes express themselves, the forms of things are from eternity immersed in matter.---The reader will, I hope, forgive me for entering into these details, not only on account of their connexion with the observations which are to follow; but as they relate to a controversy which, for many ages, employed all the ingenuity and learning in Europe; and which, therefore, however frivolous in itself, deserves the attention of philosophers, as one of the most curious events which occurs in the history of the human mind.

Such appears to have been the prevailing opinion concerning the nature of universals, till the eleventh century; when a new doctrine, or (as some authors think) a doctrine borrowed from the school of Zeno, was proposed by Roscelinus;* and soon after very widely propagated over Europe by the abilities and eloquence of one of his scholars, the celebrated Peter Abelard. According to these philosophers, there are no existences in nature corresponding to general terms; and the objects of our attention in all our general speculations are not ideas, but words.

In consequence of this new doctrine, the schoolmen gradually formed themselves into two sects: one of which attached itself to the opinions of Roscelinus and Abelard; while the other adhered to the principles of Aristotle. Of these sects, the former are known in literary history by the name of

* See Note [H.]

the Nominaliſts; the latter, by that of the Realiſts.

As it is with the doctrine of the Nominaliſts that my own opinion on this ſubject coincides; and as I propoſe to deduce from it ſome conſequences, which appear to me important, I ſhall endeavour to ſtate it as clearly and preciſely as I am able, purſuing, however, rather the train of my own thoughts, than guided by the reaſonings of any particular author.

I formerly explained in what manner the words, which, in the infancy of language, were proper names, became gradually appellatives; in conſequence of which extenſion of their ſignification, they would expreſs, when applied to individuals, thoſe qualities only which are common to the whole genus. Now, it is evident, that, with reſpect to individuals of the ſame genus, there are two claſſes of truths; the one, particular truths relating to each individual apart, and deduced from a conſideration of its peculiar and diſtinguiſhing properties; the other, general truths, deduced from a conſideration of their common qualities; and equally applicable to all of them. Such truths may be conveniently expreſſed, by means of general terms; ſo as to form propoſitions, comprehending under them as many particular truths, as there are individuals comprehended under the general terms. It is farther evident, that there are two ways in which ſuch general truths may be obtained; either by fixing the attention on one individual, in ſuch a manner that our reaſoning may involve no circumſtances but thoſe which are common to the whole genus; or, (laying aſide entirely the conſideration of things,) by means of the general terms with which language ſupplies us. In either of theſe caſes, our inveſtigations muſt neceſſarily lead us to general concluſions. In the firſt caſe; our attention being limited to thoſe circumſtances, in which the ſubject of our reaſoning reſembles all other individuals of the ſame

genus, whatever we demonstrate with respect to this subject must be true of every other to which the same attributes belong. In the second case; the subject of our reasoning being expressed by a generic word, which applies in common to a number of individuals, the conclusion we form must be as extensive in its application, as the name of the subject is in its meaning. The former process is analogous to the practice of geometers, who, in their most general reasonings, direct the attention to a particular diagram: the latter, to that of algebraists, who carry on their investigations by means of symbols.* In cases of this last sort, it may frequently happen, from the association of ideas, that a general word may recal some one individual to which it is applicable; but this is so far from being necessary to the accuracy of our reasoning, that, excepting in some cases. in which it may be useful to check us in the abuse of general terms, it always has a tendency, more or less, to mislead us from the truth. As the decision of a judge must necessarily be impartial, when he is only acquainted with the relations in which the parties stand to each other, and when their names are supplied by letters of the alphabet, or by the fictitious names of Titius, Caius, and Sempronius; so, in every process of reasoning, the conclusion we form is most likely to be logical-

* These two methods of obtaining general truths proceed on the same principles; and are in fact, much less different from each other, than they appear to be, at first view. When we carry on a process of general reasoning, by fixing our attention on a particular individual of a genus, this individual is to be considered merely as a sign or representative; and differs from any other sign only in this, that it bears a certain resemblance to the things it denotes.—The straight lines which are employed in the fifth book of Euclid to represent magnitudes in general, differ from the algebraical expressions of these magnitudes, in the same respects which picture-writing differs from arbitrary characters.

ly juſt, when the attention is conſigned ſolely to ſigns; and when the imagination does not preſent to it thoſe individual objects which may warp the judgment by caſual aſſociations.

To theſe remarks, it may not be improper to add, that, although in our ſpeculations concerning individuals, it is poſſible to carry on proceſſes of reaſoning, by fixing our attention on the objects themſelves, without the uſe of language; yet it is alſo in our power to accompliſh the ſame end, by ſubſtituting for theſe objects, words, or other arbitrary ſigns. The difference between the employment of language in ſuch caſes, and in our ſpeculations concerning claſſes or genera, is; that in the former caſe the uſe of words is, in a great meaſure, optional; whereas, in the latter, it is eſſentially neceſſary. This obſervation deſerves our attention the more, that, if I am not miſtaken, it has contributed to miſlead ſome of the Realiſts; by giving riſe to an idea, that the uſe of language, in thinking about univerſals, however convenient, is not more neceſſary than in thinking about individuals.

According to this view of the proceſs of the mind, in carrying on general ſpeculations, that IDEA which the ancient philoſophers conſidered as the eſſence of an individual, is nothing more than the particular quality or qualities in which it reſembles other individuals of the ſame claſs; and in conſequence of which, a generic name is applied to it. It is the poſſeſſion of this quality, that entitles the individual to the generic appellation, and which, therefore, may be ſaid to be eſſential to its claſſification with that particular genus; but as all claſſifications are to a certain degree arbitrary, it does not neceſſarily follow, that it is more eſſential to its exiſtence as an individual, than various other qualities which we are accuſtomed to regard as accidental. In other words, (if I may borrow the language of modern philoſophy,) this quality forms its nominal, but not its real eſſence.

These observations will, I flatter myself, be sufficient for the satisfaction of such of my readers as are at all conversant with philosophical inquiries. For the sake of others, to whom this disquisition may be new, I have added the following illustrations.

I shall have occasion to examine, in another part of my work, how far it is true, (as is commonly believed,) that every process of reasoning, may be resolved into a series of syllogisms; and to point out some limitations, with which, I apprehend, it is necessary that this opinion should be received. As it would lead me, however, too far from my present subject, to anticipate any part of the doctrine which I am then to propose, I shall, in the following remarks, proceed on the supposition, that the syllogistic theory is well founded; a supposition which, although not strictly agreeable to truth, is yet sufficiently accurate for the use which I am now to make of it. Take, then, any step of one of Euclid's demonstrations; for example, the first step of his first proposition, and state it in the form of a syllogism. "All straight lines, drawn from the centre of a "circle to the circumference, are equal to one ano-"ther." "But A B, and C D, are straight lines, "drawn from the centre of a circle to the circum-"ference. Therefore, A B is equal to C D."—It is perfectly manifest, that, in order to feel the force of this conclusion, it is by no means necessary, that I should annex any particular notions to the letters A B, or C D, or that I should comprehend what is meant by *equality*, or by a *circle*, its *centre*, and its *circumference*. Every person must be satisfied, that the truth of the conclusion is necessarily implied in that of the two premises; whatever the particular things may be to which these premises may relate. In the following syllogism, too:——"All men "must die;—Peter is a man;—therefore Peter must "die;"—the evidence of the conclusion does not

in the leaſt depend on the particular notions I annex to the words *man*, and *Peter*; but would be equally complete, if we were to ſubſtitute inſtead of them, two letters of the alphabet, or any other inſignificant characters.—"All X's muſt "die;—Z is an X;—therefore Z muſt die;"—is a ſyllogiſm which forces the aſſent no leſs than the former. It is farther obvious, that this ſyllogiſm would be equally concluſive, if, inſtead of the word *die*. I were to ſubſtitute any other verb that the language contains; and that, in order to perceive the juſtneſs of the inference, it is not even neceſſary that I ſhould underſtand its meaning.

In general, it might be eaſily ſhewn, that all the rules of logic, with reſpect to ſyllogiſms, might be demonſtrated, without having recourſe to any thing but letters of the alphabet; in the ſame manner, (and I may add, on the very ſame principles) on which the algebraiſt demonſtrates, by means of theſe letters, the various rules for tranſpoſing the terms of an equation.

From what has been ſaid, it follows that the aſſent we give to the concluſion of a ſyllogiſm does not reſult from any examination of the notions expreſſed by the different propoſitions of which it is compoſed, but is an immediate conſequence of the relations in which the words ſtand to each other. The truth is, that, in every ſyllogiſm, the inference is only a particular inſtance of the general axiom, that whatever is true univerſally of any ſign, muſt alſo be true of every individual which that ſign can be employed to expreſs. Admitting, therefore, that every proceſs of reaſoning may be reſolved into a ſeries of ſyllogiſms, it follows that this operation of the mind furniſhes no proof of the exiſtence of any thing correſponding to general terms diſtinct from the individuals to which theſe terms are applicable.

Theſe remarks, I am very ſenſible, do, by no means, exhauſt the ſubject; for there are various

modes of reasoning, to which the syllogistic theory does not apply. But, in all of them, without exception, it will be found, on examination, that the evidence of our conclusions appears immediately from the consideration of the words in which the premises are expressed; without any reference to the things which they denote. The imperfect account which is given of deductive evidence in the received systems of logic, makes it impossible for me, in this place to prosecute the subject any farther.

After all that I have said on the use of language as an instrument of reasoning, I can easily foresee a variety of objections, which may occur to the doctrine I have been endeavoring to establish. But, without entering into a particular examination of these objections, I believe I may venture to affirm, that most, if not all, of them take their rise from confounding, reasoning, or deduction, properly so called, with certain other intellectual processes, which it is necessary for us to employ in the investigation of truth. That it is frequently of essential importance to us, in our speculations, to withdraw our attention from words, and to direct it to the things they denote, I am very ready to acknowledge. All that I assert is, that, in so far as our speculations consist of that process of the mind which is properly called reasoning, they may be carried on by words alone; or, which comes to the same thing, that every process of reasoning is perfectly analogous to an algebraical operation. What I mean by "the other "intellectual processes distinct from reasoning which "it is necessary for us sometimes to employ in the "investigation of truth," will, I hope, appear clearly from the following remarks.

In algebraical investigations, it is well known, that the practical application of a general expression is frequently limited by the conditions which the hypothesis involves; and that in consequence of a

want of attention to this circumſtance, ſome mathematicians of the firſt eminence have been led to adopt the moſt paradoxical and abſurd concluſions. Without this cautious exerciſe of the judgment, in the interpretation of the algebraical language, no dexterity in the uſe of the calculus will be ſufficient to preſerve us from error. Even in algebra, therefore, there is an application of the intellectual powers perfectly diſtinct from any proceſs of reaſoning; and which is abſolutely neceſſary for conducting us to the truth.

In geometry, we are not liable to adopt the ſame paradoxical concluſions, as in algebra; becauſe the diagrams to which our attention is directed, ſerve as a continual check on our reaſoning powers. Theſe diagrams exhibit to our very ſenſes, a variety of relations among the quantities under conſideration, which the language of algebra is too general to expreſs; in conſequence of which we are not conſcious of any effort of the judgment diſtinct from a proceſs of reaſoning. As every geometrical inveſtigation, however, may be expreſſed algebraically, it is manifeſt, that, in geometry, as well as in algebra, there is an exerciſe of the intellectual powers, diſtinct from the logical proceſs; although, in the former ſcience, it is rendered ſo eaſy, by the uſe of diagrams, as to eſcape our attention.

The ſame ſource of error and of abſurdity, which exiſts in algebra, is to be found, in a much greater degree in the other branches of knowledge. Abſtracting entirely from the ambiguity of language; and ſuppoſing alſo our reaſonings to be logically accurate, it would ſtill be neceſſary for us, from time to time, in all our ſpeculations, to lay aſide the uſe of words, and to have recourſe to particular examples or illuſtrations in order to correct and to limit our general concluſions.—To a want of attention to this circumſtance, a number of the ſpeculative abſurdities which are current in the world, might, I am perſuaded, be eaſily traced.

Beſides, however, this ſource of error, which is in ſome degree common to all the ſciences, there is a great variety of others, from which mathematics are entirely exempted; and which perpetually tend to lead us aſtray in our philoſophical inquiries. Of theſe, the moſt important is, that ambiguity in the ſignification of words, which renders it ſo difficult to avoid employing the ſame expreſſions in different ſenſes, in the courſe of the ſame proceſs of reaſoning. This ſource of miſtake, indeed, is apt, in a much greater degree, to affect our concluſions in metaphyſics, morals, and politics, than in the different branches of natural philoſophy; but, if we except mathematics, there is no ſcience whatever, in which it has not a very ſenſible influence. In algebra, we may proceed with perfect ſafety through the longeſt inveſtigations, without carrying our attention beyond the ſigns, till we arrive at the laſt reſult. But in the other ſciences, excepting in thoſe caſes in which we have fixed the meaning of all our terms by accurate definitions, and have rendered the uſe of theſe terms perfectly familiar to us by very long habit, it is but ſeldom that we can proceed in this manner without danger of error. In many caſes, it is neceſſary for us to keep up, during the whole of our inveſtigations, a ſcrupulous and conſtant attention to the ſignification of our expreſſions; and, in moſt caſes, this caution in the uſe of words, is a much more difficult effort of the mind, than the logical proceſs. But ſtill this furniſhes no exception to the general doctrine, already delivered; for the attention we find it neceſſary to give to the import of our words, ariſes, only from the accidental circumſtance of their ambiguity, and has no eſſential connection with that proceſs of the mind, which is properly called reaſoning; and which conſiſts in the inference of a concluſion from premiſes. In all the ſciences, this proceſs of the mind is perfectly analogous to an algebraical operation; or, in other

words, (when the meaning of our expreſſions is once fixed by definitions,) it may be carried on intirely by the uſe of ſigns, without attending, during the time of the proceſs, to the things ſignified.

The concluſion to which the foregoing obſervations lead, appear to me to be deciſive of the queſtion, with reſpect to the objects of our thoughts when we employ general terms; for if it be granted, that words, even when employed without any reference to their particular ſignification, form an inſtrument of thought ſufficient for all the purpoſes of reaſoning; the only ſhadow of an argument in proof of the common doctrine on the ſubject, (I mean that which is founded on the impoſſibility of of explaining this proceſs of the mind on any other hypotheſis,) falls to the ground. Nothing leſs, ſurely, than a conviction of this impoſſibility, could have ſo long reconciled philoſophers to an hypotheſis unſupported by any direct evidence, and acknowledged even by its warmeſt defenders, to involve much difficulty and myſtery.

It does not fall within my plan, to enter, in this part of my work, into a particular conſideration of the practical conſequences which follow from the foregoing doctrine. I cannot, however, help remarking the importance of cultivating, on the one hand, a talent for ready and various illuſtration; and, on the other, a habit of reaſoning by means of general terms. The former talent is neceſſary, not only for correcting and limiting our general concluſions, but for enabling us to apply our knowledge, when occaſion requires, to its real practical uſe. The latter ſerves the double purpoſe, of preventing our attention from being diſtracted during the courſe of our reaſonings, by ideas which are foreign to the point in queſtion; and of diverting the attention from thoſe conceptions of particular objects and particular events which might diſturb the judgment, by the ideas and feelings, which are apt

to be associated with them, in consequence of our own casual experience.

This last observation points out to us, also, one principal foundation of the art of the orator. As his object is not so much to inform and to satisfy the understanding of his hearers as to force their immediate assent; it is frequently of use to him to clothe his reasonings in that specific and figurative language, which may either awaken in their minds associations favourable to his purpose, or may divert their attention from a logical examination of his argument. A process of reasoning so expressed, affords at once an exercise to the judgment, to the imagination, and to the passions; and is apt, even when loose and inconsequential, to impose on the best understandings.

It appears farther, from the remarks which have been made, that the perfection of philosophical language, considered either as an instrument of thought, or as a medium of communication with others, consists in the use of expressions, which, from their generality, have no tendency to awaken the powers of conception and imagination: or, in other words, it consists in its approaching, as nearly as possible, in its nature, to the language of algebra. And hence the effects which long habits of philosophical speculation have, in weakening, by disuse, those faculties of the mind, which are necessary for the exertions of the poet and the orator; and of gradually forming a style of composition, which they who read merely for amusement, are apt to censure for a want of vivacity and of ornament.

SECTION III.

Remarks on the Opinions of ſome modern Philoſophers on the Subject of the foregoing Section.

AFTER the death of Abelard, through whoſe abilities and eloquence the ſect of Nominaliſts had enjoyed, for a few years, a very ſplendid triumph, the ſyſtem of the Realiſts began to revive; and it was ſoon ſo completely re-eſtabliſhed in the ſchools, as to prevail, with little or no oppoſition, till the fourteenth century. What the circumſtances were, which led philoſophers to abandon a doctrine, which ſeems ſo ſtrongly to recommend itſelf by its ſimplicity, it is not very eaſy to conceive. Probably the heretical opinions, which had ſubjected both Abelard and Roſcelinus to the cenſure of the church, might create a prejudice alſo againſt their philoſophical principles; and probably too, the manner in which theſe principles were ſtated and defended, was not the cleareſt nor the moſt ſatisfactory.* The principal cauſe, however, I am diſpoſed to think, of the decline of the ſect of Nominaliſts, was their want of ſome palpable example, by means of which they might illuſtrate their doctrine. It is by the uſe which algebraiſts make of the letters of the alphabet, in carying on their operations, that Leibnitz and Berkley have been moſt ſucceſsful in explaining the uſe of language as an inſtrument of thought; and, as in the twelfth century, the algebraical art was entirely unknown, Roſcelinus and Abelard muſt have been reduced to the neceſſity of conveying their leading idea by general circumlocutions; and muſt have found conſiderable difficulty in ſtating it in a manner ſatisfactory to them-

* The great argument which the Nominaliſts employed againſt the exiſtence of univerſals was: "Entia non ſunt "multiplicanda præter neceſſitatem."

ſelves: a conſideration, by the way, which if it accounts for the ſlow progreſs which this doctrine made in the world, places in the more ſtriking light, the genius of thoſe men whoſe ſagacity led them, under ſo great diſadvantages, to approach to a concluſion ſo juſt and philoſophical in itſelf, and ſo oppoſite to the prevailing opinions of their age.

In the fourteenth century, this ſect ſeems to have been almoſt completely extinct; their doctrine being equally reprobated by the two great parties which then divided the ſchools, the followers of Duns Scotus and of Thomas Aquinas. Theſe, although they differed in their manner of explaining the nature of univerſals, and oppoſed each other's opinions with much aſperity, yet united in rejecting the doctrine of the Nominaliſts, not only as abſurd but as leading to the moſt dangerous conſequences. At laſt, William Occam, a native of England, and a ſcholar of Duns Scotus, revived the ancient controverſy: and with equal ability and ſucceſs vindicated the long-abandoned philoſophy of Roſcelinus. From this time the diſpute was carried on with great warmth, in the univerſities of France, of Germany, and of England; more particularly in the two former countries, where the ſovereigns were led, by ſome political views, to intereſt themſelves deeply in the conteſt; and even to employ the civil power in ſupporting their favourite opinions. The emperor Lewis of Bavaria, in return for the aſſiſtance which, in his diſputes with the Pope,* Occam had given to him by his writings, ſided with the Nominaliſts. Lewis the Eleventh of France, on the other hand, attached himſelf to the Realiſts, and made their antagoniſts the objects of a cruel perſecution.†

* Occam, we are told, was accuſtomed to ſay to the Emperor: "Tu me defendas gladio, et ego te defendam calamo." BRUCKER, vol. iii. p. 848.

† MOSHEIM's Eccleſiaſtical Hiſtory.

The proteſtant reformation, at length involved men of learning in diſcuſſions of a more intereſting nature; but even the zeal of theological controverſy could hardly exceed that with which the Nominaliſts and Realiſts had for ſome time before maintained their reſpective doctrines. "Clamores primum ad "ravim," (ſays an author who had himſelf been an eye-witneſs of theſe literary diſputes) "hinc impro- "bitas, ſannæ, minæ, convitia, dum luctantur, et "uterque alterum tentat proſternere: conſumtis "verbis venitur ad pugnos, ad veram luctam ex "ficta et ſimulata. Quin etiam, quæ contingunt "in palæſtra, illic non deſunt, colaphi, alapæ, con- "ſputio, calces, morſus, etiam que jam ſupra leges "palæſtræ, fuſtes, ferrum, ſaucii multi, nonnunquam "occiſi."* That this account is not exaggerated, we have the teſtimony of no leſs an author than Eraſmus, who mentions it as a common occurrence: "Eos uſque ad pallorem uſque ad convitia, uſque "ad ſputa, nonnunquam et uſque ad pugnos invi- "cem digladiari, alios ut Nominales, alios ut Rea- "les, loqui."†

The diſpute to which the foregoing obſervations relate, although, for ſome time after the reformation, interrupted by theological diſquiſitions, has been ſince occaſionally revived by different writers; and, ſingular as it may appear, it has not yet been brought to a concluſion in which all parties are agreed. The names, indeed, of Nominaliſts and

* Ludovicus Vives.

† The Nominaliſts procured the death of John Huſs, who was a Realiſt; and in their letter to Lewis King of France. do not pretend to deny that he fell a victim to the reſentment of their ſect. The Realiſts, on the other hand, obtained, in the year 1479, the condemnation of John de Weſalia, who was attached to the party of the Nominaliſts. Theſe contending ſects carried their fury ſo far as to charge each other with "the ſin againſt the Holy Ghoſt."

Mosheim's Eccleſiaſtical Hiſtory.

Realiſts exiſt no longer; but the point in diſpute between theſe two celebrated ſects, coincides preciſely with a queſtion which has been agitated in our own times, and which has led to one of the moſt beautiful ſpeculations of modern philoſophy.

Of the advocates who have appeared for the doctrine of the Nominaliſts, ſince the revival of letters, the moſt diſtinguiſhed, are, Hobbes, Berkeley, and Hume. The former has, in various parts of his works, reprobated the hypotheſis of the Realiſts; and has ſtated the opinions of their antagoniſts with that acuteneſs, ſimplicity, and preciſion, which diſtinguiſh all his writings.* The ſecond, conſidering (and, in my opinion, juſtly) the doctrines of the ancients concerning univerſals, in ſupport of which ſo much ingenuity had been employed by the Realiſts, as the great ſource of myſtery and error in the abſtract ſciences, was at pains to overthrow it com-

* "The univerſality of one name too many things, hath "been the cauſe that men think the things themſelves are "univerſal; and ſo ſeriouſly contend, that beſides Peter and "John, and all the reſt of the men that are, have been, or "ſhall be, in the world, there is yet ſomething elſe, that we "call Man, viz. Man in general; deceiving themſelves, by "taking the univerſal, or general appellation, for the thing "it ſignifieth: For if one ſhould deſire the painter to make "him the picture of a man, which is as much as to ſay, of a "man in general; he meaneth no more, but that the painter ſhould chuſe what man he pleaſeth to draw, which muſt "needs be ſome of them that are, or have been, or may be; "none of which are univerſal. But when he would have "him draw the picture of a king, or any particular perſon, "he limiteth the painter to that one perſon he chuſeth. It "is plain, therefore, that there is nothing univerſal but "names; which are therefore called indefinite, becauſe we "limit them not ourſelves, but leave them to be applied by "the hearer: whereas a ſingular name is limited and reſtrained to one of the many things it ſignifieth; as when we "ſay, this man, pointing to him, or giving him his proper "name, or by ſome ſuch other way."

HOBBES's Tripos, chap. v. § 6.

pletely, by ſome very ingenious and original ſpeculations of his own. Mr. Hume's* view of the ſubject, as he himſelf acknowledges, does not differ materially from that of Berkeley; whom, by the way, he ſeems to have regarded as the author of an opinion, of which he was only an expoſitor and defender; and which, ſince the days of Roſcelinus and Abelard, has been familiarly known in all the univerſities of Europe.†

Nowithſtanding, however, the great merit of theſe writers, in defending and illuſtrating the ſyſtem of the Nominaliſts, none of them ſeem to me to have been fully aware of the important conſequence to which it leads. The Abbé de Condillac was, I believe, the firſt (if we except, perhaps, Leibnitz) who perceived that, if this ſyſtem be true, a talent for reaſoning muſt conſiſt, in a great meaſure,

* "A very material queſtion has been ſtarted concerning "abſtract or general ideas: Whether they be general or "particular in the mind's conception of them? A great phi- "loſopher has diſputed the received opinion in this partic- "ular; and has aſſerted, that all general ideas are nothing "but particular ones annexed to a certain term, which gives "them a more extenſive ſignification, and makes them re- "cal, upon occaſion, other individuals, which are ſimilar to "them. As I look upon this to be one of the greateſt and "moſt valuable diſcoveries that have been made of late years "in the republic of letters, I ſhall here endeavour to confirm "it by ſome arguments, which, I hope, will put it beyond all "doubt and controverſy."

Treatiſe of Human Nature, book, i. part i. ſect. 7.

† Leibnitz, too, has declared himſelf a partiſan of this ſect, in a diſſertation "De Stilo Philoſophico Marii Nizolii." This Nizolius publiſhed a book at Parma, in the year 1553, entitled, "De Veris Principiis et vera Ratione Philoſophan- "di;" in which he oppoſed ſeveral of the doctrines of Ariſtotle, particularly his opinion concerning univerſals. An edition of this work, with a Preface and Notes, was publiſhed by Leibnitz at Frankfort, in the year 1670. The Preface and Notes are to be found in the fourth volume of his works, by Dutens. (Geneva, 1768.) I have inſerted a ſhort extract from the former, in Note (1.) at the end of the volume.

in a skilful use of language as an instrument of thought. The most valuable of his remarks on this subject are contained in a treatise *De l' Art de Penser* which forms the fourth volume of his "Cours d'E-"tude."

Dr. Cambell, too, in his Philosophy on Rhetoric, has founded, on the principles of Berkley and Hume a very curious and interesting speculation, of which I shall have occasion afterwards to take notice.

The explanation which the doctrines of these writers afford, of the process of the mind in general reasoning is so simple, and at the same time, in my apprehension, so satisfactory, that, I own, it is with some degree of surprise I have read the attempts which have lately been made to revive the system of the Realists. One of the ablest of these attempts is by Dr. Price; who, in his very valuable Treatise on Morals, has not only employed his ingenuity in support of some of the old tenets of the Platonic school but has even gone so far as to follow Plato's example, in connecting this speculation about universals with the sublime questions of natural theology. The observations which he has offered in support of these opinions, I have repeatedly perused with all the attention in my power; but without being able to enter into his views, or even to comprehend fully his meaning. Indeed, I must acknowledge, that it appears to me to afford no slight presumption against the principles on which he proceeds, when I observe that an author, remarkable, on most occasions, for precision of ideas, and for perspicuity of style, never fails to lose himself in obscurity and mystery, when he enters on these disquisitions.

Dr. Price's reasonings in proof of the existence of universals, are the more curious, as he acquiesces in some of Dr. Reid's conclusions with respect to the ideal theory of perception. That there are in the mind, images or resemblances of things external, he grants to be impossible; but still he seems to suppose

that, in every exertion of thought, there is *something* immediately present to the mind, which is the object of its attention. "When abstract truth is contemplated, is not" (says he) "the very object itself present to the mind? When millions of intellects contemplate the equality of every angle of a semicircle to a right angle, have they not all the same object in view? Is this object nothing? Or is it only an image, or kind of shadow? These inquiries," he adds, "carry our thoughts high."*

The difficulty which has appeared so puzzling to this ingenious writer, is, in truth, more apparent than real. In the case of Perception, Imagination, and Memory, it has been already fully shewn, that we have no reason to believe the existence of any thing in the mind distinct from the mind itself; and that, even upon the supposition that the fact were otherwise, our intellectual operations would be just as inexplicable as they are at present. Why then

* The whole passage is as follows: "The word *idea* is "sometimes used to signify the immediate object of the "mind in thinking, considered as something in the mind, "which represents the real object, but is different from it. "This sense of an idea is derived from the notion, that "when we think of any external existence, there is some-"thing immediately present to the mind, which it contem-"plates distinct from the object itself, that being at a distance. "But what is this? It is bad language to call it an image "in the mind of the object. Shall we say then, that there "is indeed no such thing? But would not this be the same "as to say that, when the mind is employed in viewing and "examining any object, which is either not present to it, or "does not exist, it is employed in viewing and examining "nothing, and therefore does not then think at all? When "abstract truth is contemplated, is not the very object itself "present to the mind? When millions of intellects contem-"plate the equality of every angle in a semicircle to a right "angle, have they not all the same object in view? Is this "object nothing? Or is it only an image or kind of shad-"ow?—These inquiries carry our thoughts high."

ſhould we ſuppoſe, that, in our general ſpeculations, there muſt exiſt in the mind ſome object of its thoughts, when it appears that there is no evidence of the exiſtence of any ſuch object, even when the mind is employed about individuals?

Still, however, it may be urged, that, although, in ſuch caſes, there ſhould be no object of thought in the mind, there muſt exiſt ſomething or other to which its attention is directed. To this difficulty I have no anſwer to make, but by repeating the fact which I have already endeavoured to eſtabliſh; that there are only two ways in which we can poſſibly ſpeculate about claſſes of objects; the one, by means of a word or generic term; the other, by means of one particular individual of the claſs which we conſider as the repreſentative of the reſt; and that theſe two methods of carrying on our general ſpeculations, are at bottom ſo much the ſame, as to authoriſe us to lay it down as a principle, that, without the uſe of ſigns, all our thoughts muſt have related to individuals. When we reaſon, therefore, concerning claſſes or genera, the objects of our attention are merely ſigns; or if, in any inſtance, the generic word ſhould recal ſome individual, this circumſtance is to be regarded only as the conſequence of an accidental aſſociation, which has rather a tendency to diſturb, than to aſſiſt us in our reaſoning.

Whether it might not have been poſſible for the Deity to have ſo formed us, that we might have been capable of reaſoning concerning claſſes of objects, without the uſe of ſigns, I ſhall not take upon me to determine. But this we may venture to affirm with confidence, that man is not ſuch a being. And, indeed, even if he were, it would not therefore neceſſarily follow, that there exiſts any thing in a genus, diſtinct from the individuals of which it is compoſed; for we know that the power which we have of thinking of particular objects without the medium of ſigns, does not in the leaſt depend on their exiſtence or non-exiſtence.

It would be vain, however, for us, in inquiries of this nature, to indulge ourſelves in ſpeculating about poſſibilities. It is of more conſequence to remark the advantages which we derive from our actual conſtitution; and which, in the preſent inſtance, appear to me to be important and admirable: inaſmuch as it fits mankind for an eaſy interchange of their intellectual acquiſitions; by impoſing on them the neceſſity of employing, in their ſolitary ſpeculations, the ſame inſtrument of thought, which forms the eſtabliſhed medium of communications with each other.

In the very ſlight ſketch which I have given of the controverſy between the Nominaliſts and the Realiſts about the exiſtence of univerſals, I have taken no notice of an intermediate ſect called Conceptualiſts; whoſe diſtinguiſhing tenet is ſaid to have been, that the mind has a power of forming general conceptions.* From the indiſtinctneſs and inaccuracy of their language on the ſubject, it is not a very eaſy matter to aſcertain preciſely what was their opinion on the point in queſtion; but, on the

* "Nominales, deſerta paulo Abelardi hypotheſi, univerſa-"lia in notionibus atque conceptibus mentis ex rebus ſingu-"laribus abſtractione formatis conſiſtere ſtatutebant, unde "conceptuales dicti ſunt."——BRUCKER, vol. iii. p. 908. (Lipſ. 1766.)

"Nominalium tres erant familiæ. Aliqui ut Rocelinus, "univerſalia meras eſſe voces docuerunt. Alii iterum in ſo-"lo intellectu poſſuerunt, atque meros animi conceptus eſſe "autumarunt, quos conceptuales aliqui vocant, et a nomin-"alibus diſtinguunt, quanquam alii etiam conſundant. Alii "fuerunt, qui univerſalia quæſiverunt, non tam in vocibus, "quam in ſermonibus integris, quod Joh. Sariſberienſis ad-"ſcribet Pet. Abelardo; quo quid inteligat ille, mihi non "ſatis liquet."——MORHOF. Polyhiſtor. Tom. Sec. lib. i. cap. xiii. § 2.

I have taken no notice of the laſt claſs of Nominaliſts here mentioned; as I find myſelf unable to comprehend their doctrine.

whole, I am inclined to think, that it amounted to the two following propoſitions: firſt, that we have no reaſon to believe the exiſtence of any eſſences, or univerſal ideas, correſponding to general terms; and ſecondly, that the mind has the power of reaſoning concerning *genera*, or claſſes of individuals, *without the mediation of language*. Indeed, I cannot think of any other hypotheſis which it is poſſible to form on the ſubject, diſtinct from thoſe of the two celebrated ſects already mentioned. In denying the exiſtence of univerſals, we know that the Conceptualiſts agreed with the Nominaliſts. In what, then, can we ſuppoſe that they differed from them, but about the neceſſity of language as an inſtrument of thought, in carrying on our general ſpeculations?

With this ſect of Conceptualiſts, Dr. Reid is diſpoſed to rank Mr. Locke; and I agree with him ſo far as to think, that, if Locke had any decided opinion on the point in diſpute, it did not differ materially from what I have endeavoured to expreſs in the two general propoſitions which I have juſt now ſtated. The apparent inconſiſtencies which occur in that part of his Eſſay in which the queſtion is diſcuſſed, have led ſubſequent authors to repreſent his ſentiments in different lights; but as theſe inconſiſtencies plainly ſhew, that he was neither ſatisfied with the ſyſtem of the Realiſts nor with that of the Nominaliſts; they appear to me to demonſtrate that he leaned to the intermediate hypotheſis already mentioned, notwithſtanding the inaccurate and paradoxical manner in which he has expreſſed it.*

May I take the liberty of adding, that Dr. Reid's own opinion ſeems to me alſo to coincide nearly with that of the Conceptualiſts; or, at leaſt, to coincide with the two propoſitions which I have already ſuppoſed to contain a ſummary of their doctrine? The abſurdity of the ancient opinion con-

* See Note [K.]

cerning univerſals, as maintained both by Plato, and Ariſtotle, he has expoſed by the cleareſt and moſt deciſive arguments; not to mention, that, by his own very original and important ſpeculations concerning the ideal theory, he has completely deſtroyed that natural prejudice from which the whole ſyſtem of univerſal ideas gradually took riſe. If, even in the caſe of individuals, we have no reaſon to believe the exiſtence of any object of thought in the mind, diſtinct from the mind itſelf, we are at once relieved from all the difficulties in which philoſophers have involved themſelves by attempting to explain, in conſiſtency with that ancient hypotheſis the proceſs of the mind in its general ſpeculations.

On the other hand it is no leſs clear, from Dr. Reid's criticiſms on Berkeley and Hume, that his opinion does not coincide with that of the Nominaliſts; and that the power which the mind poſſeſſes of reaſoning concerning claſſes of objects appears to him to imply ſome faculty, of which no notice is taken in the ſyſtems of theſe philoſophers.

The long experience I have had of the candour of this excellent author, encourages me to add, that in ſtating his opinion on the ſubject of univerſals, he has not expreſſed himſelf in a manner ſo completely ſatisfactory to my mind, as on moſt other occaſions. That language is not an eſſential inſtrument in our general reaſonings, he has no where poſitively aſſerted. At the ſame time, as he has not affirmed the contrary, and as he has declared himſelf diſſatisfied with the doctrines of Berkeley and Hume, his readers are naturally led to conclude, that this is his real opinion on the ſubject. His ſilence on this point is the more to be regretted, as it is the only point about which there can be any reaſonable controverſy among thoſe who allow his refutation of the ideal hypotheſis to be ſatisfactory. In conſequence of that refutation, the whole diſpute between the Realiſts and the Conceptualiſts falls at

once to the ground; but the dispute between the Conceptualists and the Nominalists (which involves the great question concerning the use of signs in general speculation) remains on the same footing as before.

In order to justify his own expressions concerning universals; and in opposition to the language of Berkeley and Hume, Dr. Reid is at pains to illustrate a distinction between conception and imagination, which, he thinks, has not been sufficiently attended to by philosophers. "An universal," says he, "is "not an object of any external sense, and therefore "cannot be imagined; but it may be distinctly "conceived. When Mr. Pope says, "The proper "study of mankind is man;" I conceive his mean- "ing distinctly; although I neither imagine a black "or a white, a crooked or a straight man. I can "conceive a thing that is impossible; but I cannot "distinctly imagine a thing that is impossible. I can "conceive a proposition or a demonstration, but I "cannot imagine either. I can conceive understand- "ing and will, virtue and vice, and other attributes "of the mind; but I cannot imagine them. In like "manner, I can distinctly conceive universals; but "I cannot imagine them."

It appears from this passage, that, by conceiving universals, Dr. Reid means nothing more, than understanding the meaning of propositions involving general terms. But the observations he has made (admitting them in their full extent) do not in the least affect the question about the necessity of signs to enable us to speculate about such propositions. The vague use which metaphysical writers have made of the word *conception*, (of which I had occasion to take notice in a former chapter) has contributed in part to embarrass this subject. That we cannot conceive universals in a way at all analogous to that in which we conceive an absent object of sense, is granted on both sides. Why then should

we employ the ſame word *conception*, to expreſs two operations of the mind which are eſſentially different? When we ſpeak of conceiving or underſtanding a general propoſition, we mean nothing more than that we have a conviction, (founded on our previous uſe of the words in which it is expreſſed) that we have it in our power, at pleaſure to ſubſtitute, inſtead of the general terms, ſome one of the individuals comprehended under them. When we hear a propoſition announced, of which the terms are not familiar to us; we naturally deſire to have it exemplified, or illuſtrated, by means of ſome particular inſtance; and when we are once ſatisfied by ſuch an application, that we have the interpretation of the propoſition at all times in our power, we make no ſcruple to ſay, that we conceive or underſtand its meaning; although we ſhould not extend our views beyond the words in which it is announced or even although no particular exemplification of it ſhould occur to us at the moment. It is in this ſenſe only, that the terms of any general propoſition can poſſibly be underſtood: and therefore Dr. Reid's argument does not, in the leaſt, invalidate the doctrine of the Nominaliſts, that without the uſe of language, (under which term I comprehend every ſpecies of ſigns) we ſhould never have been able to extend our ſpeculations beyond individuals.

That, in many caſes, we may ſafely employ in our reaſonings, general terms, the meaning of which we are not even able to interpret in this way, and conſequently, which are to us wholly inſignificant, I had occaſion already to demonſtrate, in a former part of this ſection.

SECTION IV.

Continuation of the same Subject.—Inferences with respect to the Use of Language as an Instrument of Thought, and the Errors in Reasoning to which it occasionally gives rise.

IN the last Section, I mentioned Dr. Campbell as an ingenious defender of the system of the Nominalists; and I alluded to a particular application which he has made of their doctrine. The reasoning which I had then in view, are to be found in the seventh chapter of the second book of his Philosophy of Rhetoric in which chapter he proposes to explain how it happens, "that nonsense so often "escapes being detected, both by the writer and the "reader." The title is somewhat ludicrous in a grave philosophical work; but the disquisition to which it is prefixed, contains many acute and profound remarks on the nature and power of signs, both as a medium of communication, and as an instrument of thought.

Dr. Campbell's speculations with respect to language as an instrument of thought, seem to have been suggested by the following passage in Mr. Hume's Treatise of Human Nature. "I believe, every one "who examines the situation of his mind in reason-"ing, will agree with me, that we do not annex dis-"tinct and complete ideas to every term we make "use of; and that in talking of Government, "Church, Negotiation, Conquest, we seldom "spread out in our minds all the simple ideas of "which these complex ones are composed. It is, "however, observable, that, notwithstanding this "imperfection, we may avoid talking nonsense on "these subjects; and may perceive any repug-"nance among the ideas, as well as if we had a "full comprehension of them. Thus if, instead of

" ſaying, that, in war, the weaker have always re-
" courſe to negociation, we ſhould ſay, that they
" have always recourſe to conqueſt; the cuſtom
" which we have acquired, of attributing certain
" relations to ideas, ſtill follows the words, and
" makes us immediately perceive the abſurdity of
" that propoſition."

In the remarks which Dr. Campbell has made on this paſſage, he has endeavoured to explain in what manner our habits of thinking and ſpeaking, gradually eſtabliſh in the mind ſuch relations among the words we employ, as enable us to carry on proceſſes of reaſoning by means of them, without attending in every inſtance to their particular ſignification. With moſt of his remarks on this ſubject I perfectly agree; but the illuſtrations he gives of them, are of too great extent to be introduced here; and I would not wiſh to run the riſk of impairing their perſpicuity, by attempting to abridge them. I muſt therefore refer ſuch of my readers as wiſh to proſecute the ſpeculation, to his very ingenious and philoſophical treatiſe.

" In conſequence of theſe circumſtances," (ſays Dr. Campbell) " it happens that in matters which
" are perfectly familiar to us, we are able to reaſon
" by means of words, without examining, in every
" inſtance, their ſignification. Almoſt all the poſſi-
" ble applications of the terms (in other words, all
" the acquired relations of the ſigns) have become
" cuſtomary to us. The conſequence is, that an un-
" uſual application of any term is inſtantly detected;
" this detection breeds doubt, and this doubt occa-
" ſions an immediate recourſe to ideas. The recourſe
" of the mind, when in any degree puzzled with the
" ſigns, to the knowledge it has of the things ſigni-
" fied, is natural, and on ſuch ſubjects perfectly eaſy.
" And of this recourſe the diſcovery of the meaning
" or of the unmeaningneſs of what is ſaid, is the im-
" mediate effect. But in matters that are by no

"means familiar, or are treated in an uncommon "manner, and in such as are of an abstruse and in- "tricate nature, the case is widely different." The instances in which we are chiefly liable to be imposed on by words without meaning are (according to Dr. Campbell) the three following:

First, Where there is an exuberance of metaphor.

Secondly, When the terms most frequently occurring, denote things which are of a complicated nature, and to which the mind is not sufficiently familiarised. Such are the words, Government, Church, State, Constitution, Polity, Power, Commerce, Legislature, Jurisdiction, Proportion, Symmetry, Elegance.

Thirdly, When the terms employed are very abstract, and consequently of very extensive signification.* For an illustration of these remarks, I must refer the reader to the ingenious work which I just now quoted.

To the observations of these eminent writers, I shall take the liberty of adding, that we are doubly liable to the mistakes they mention, when we make use of a language which is not perfectly familiar to us. Nothing, indeed, I apprehend, can shew more clearly the use we make of words in reasoning than this, that an observation which, when expressed in our own language, seems trite or frivolous, often ac-

* "The more general any word is in its signification, it is "the more liable to be abused by an improper or unmean- "ing application. A very general term is applicable alike "to a multitude of different individuals, a particular term is "applicable but to a few. When the rightful applications "of a word are extremely numerous, they cannot all be so "strongly fixed by habit, but that, for greater security, we "must perpetually recur in our minds from the sign to the "notion we have of the thing signified; and for the reason "aforementioned, it is in such instances difficult precisely to "ascertain this notion. Thus the latitude of a word though "different from its ambiguity, hath often a similar effect."
——Philosophy of Rhetoric, vol. ii. p. 122.

quires the appearance of depth and originality, by being tranſlated into another. For my own part, at leaſt, I am conſcious of having been frequently led, in this way to form an exaggerated idea of the merits of ancient and of foreign authors; and it has happened to me more than once, that a ſentence, which ſeemed at firſt to contain ſomething highly ingenious and profound, when tranſlated into words familiar to me, appeared obviouſly to be a trite or a nugatory propoſition.

The effect produced by an artificial and inverted ſtyle in our own language, is ſimilar to what we experience when we read a compoſition in a foreign one. The eye is too much dazzled to ſee diſtinctly. "Aliud ſtyli genus," (ſays Bacon) totum in eo eſt, "ut verba ſint aculeata, ſententiæ conciſæ, oratio "denique potius verſa quam fuſa, quo fit, ut omnia, "per hujuſmodi artificium, magis ingenioſa videan-"tur quam re vera ſint. Tale invenitur in Seneca "effuſius, in Tacito et Plinio ſecundo moderatius."

The deranged collocation of the words in Latin compoſition, aids powerfully the impoſition we have now been conſidering, and renders that language an inconvenient medium of philoſophical communication; as well as an inconvenient inſtrument of accurate thought. Indeed, in all languages in which this latitude in the arrangement of words is admitted, the aſſociations among words muſt be looſer, than where one invariable order is followed; and of conſequence, on the principles of Hume and Campbell the miſtakes which are committed in reaſonings expreſſed in ſuch languages, will not be ſo readily detected.

The errors in reaſoning, to which we are expoſed in conſequence of the uſe of word as an inſtrument of thought, will appear the leſs ſurpriſing, when we conſider that all the languages which have hitherto exiſted in the world, have derived their origin from popular uſe; and that their application to philoſo-

phical purpoſes, was altogether out of the view of thoſe men who firſt employed them. Whether it might not be poſſible to invent a language, which would at once facilitate philoſophical communication, and form a more convenient inſtrument of reaſoning and of invention, than thoſe we poſſeſs at preſent, is a queſtion of very difficult diſcuſſion; and upon which I ſhall not preſume to offer an opinion. The failure of Wilkins's very ingenious attempt towards a real character, and a philoſophical language, is not perhaps deciſive againſt ſuch a project; for not to mention ſome radical defects in his plan, the views of that very eminent philoſopher do not ſeem to have extended much farther than to promote and extend the literary intercourſe among different nations. Leibnitz, ſo far as I know, is the only author who has hitherto conceived the poſſibility of aiding the powers of invention and of reaſoning, by the uſe of a more convenient inſtrument of thought; but he has no where explained his ideas on this very intereſting ſubject. It is only from a converſation of his with Mr. Boyle and Mr. Oldenburgh, when he was in England in 1673, and from ſome imperfect hints in different parts of his works,* that we find it has engaged his attention. In the courſe of this converſation he obſerved, that Wilkins had miſtaken the true end of a real character, which was not merely to enable different nations to correſpond eaſily together, but to aſſiſt the reaſon, the invention, and the memory. In his writings, too, he ſomewhere ſpeaks of an alphabet of human thoughts, which he had been employed in forming, and which, probably, (as Fontenelle has remarked) had ſome relation to his univerſal language.†

* See Note [L.]

† "M. Leibnitz avoit conçu le projet d'une langue philoſ-
" phique et univerſelle. Wilkins Evêque de Cheſter, et
" Dalgarno y avoien travillé; mais dès le tems qu'il etoit
" en Angleterre, il avoit dit à Meſſieurs Boyle et d'Olden-
" burgh qu'il ne croyoit pas que ces grands hommes euſſent

The new momenclature which has been introduced into Chymiſtry, ſeems to me to furniſh a ſtriking illuſtration of the effect of appropriated and well-defined expreſſions, in aiding the intellectual powers; and the period is probably not far diſtant, when ſimilar innovations will be attempted in ſome of the other ſciences.

SECTION V.

Of the Purpoſes to which the Powers of Abſtraction and Generaliſation are ſubſervient.

IT has been already ſhewn, that without the uſe of ſigns, all our knowledge muſt neceſſarily have been limited to individuals, and that we ſhould have been perfectly incapable both of claſſification and general reaſoning. Some authors have maintained, that without the power of generaliſation, (which I have endeavoured to ſhew, means nothing more than the capacity of employing general terms,) it would have been impoſſible for us to have carried on any ſpecies of reaſoning whatever. But I can-

" encore frappé au but. Ils pouvoint bien faire que des na-
" tions qui ne s'entendoient pas euſſent aiſément commerce
" mais ils n'avoint pas attrapé les véritables caractères réels,
" qui étoient l'inſtrument le plus fin dont l'eſprit humain
" ſe pût ſervir, et qui devoient extrêmement faciliter et le
" raiſonnement, et la memoire, et l'invention des choſes. Ils
" devoint reſſembler, autant qu'il étoit poſſible, aux charac-
" tères d'algebre, qui, en effet ſont très ſimples, et très ex-
" preſſifs, qui n'ont jamais de ſuperfluité, ni équivoque, et
" dont toutes les varietés ſont raiſonnées. Il a parlé en quel-
" que endroit, d'un alphabet des penſées humaines, qu'il
" meditoit. Selon toutes les apparences, cet alphabet avoit
" rapport à ſa langue univerſelle."

Eloge de M. LEIBNITZ *par M. de* FONTENELLE.

not help thinking that this opinion is erroneous; or, at leaſt, that it is very imperfectly ſtated. The truth is, it appears to me to be juſt in one ſenſe of the word *reaſoning*, but falſe in another; and I even ſuſpect it is falſe in that ſenſe of the word in which it is moſt commonly employed. Before, therefore, it is laid down as a general propoſition, the meaning we are to annex to this very vague and ambiguous term, ſhould be aſcertained with preciſion.

It has been remarked by ſeveral writers, that the expectation which we feel of the continuance of the laws of nature, is not founded upon reaſoning; and different theories have of late been propoſed to account for its origin. Mr. Hume reſolves it into the aſſociation of ideas. Dr. Reid, on the other hand, maintains that it is an original principle of our conſtitution, which does not admit of any explanation; and which, therefore, is to be ranked among thoſe general and ultimate facts, beyond which philoſophy is unable to proceed.* Without this principle

* In inquiries of this nature, ſo far removed from the common courſe of literary purſuits, it always gives me pleaſure to remark a coincidence of opinion among different philoſophers; particularly among men of original genius, and who have been educated in different philoſophical ſyſtems. The following paſſage, in which M. de Condorcet gives an account of ſome of the metaphyſical opinions of the late Mr. Turgot, approaches very nearly to Dr. Reid's doctrines.

" La mémoire de nos ſenſations, et la faculté que nous a-
" vons de réfléchir ſur ces ſenſations paſsées et de les com-
" biner, ſont le ſeul principe de nos connoiſſances. La ſup-
" poſition qu'il exiſte des loix conſtantes auxquelles tous les
" phénomenes obſervés ſont aſſujettis de maniere á raparoi-
" tre dans tous les temps, dans toutes les circonſtances, tels
" qu'ils ſont déterminés par ces loix, eſt le ſeul fondement
" de la certitude de ces connoiſſances.

" Nous avons la conſcience d'avoii obſerve cette conſtance,
" et un ſentiment involontaire nous force de croire qu'elle
" continuera de ſubſiſter. La probabilite qui en reſulte,

of expectation, it would be impoſſible for us to accommodate our conduct to the eſtabliſhed courſe of nature; and, accordingly, we find that it is a principle coeval with our very exiſtence; and, in ſome meaſure, common to man with the lower animals.

It is an obvious conſequence of this doctrine, that, although philoſophers be accuſtomed to ſtate what are commonly called the laws of nature, in the form of general propoſitions, it is by no means neceſſary for the practical purpoſes of life, that we ſhould expreſs them in this manner; or even that we ſhould expreſs them in words at all. The philoſopher, for example, may ſtate it as a law of Nature, that "fire ſcorches;" or that "heavy bodies, when unſupported, fall downwards:" but long before the uſe of artifical ſigns, and even before the dawn of reaſon, a child learns to act upon both theſe ſuppoſitions. In doing ſo, it is influenced merely by the inſtinctive principle which has now been mentioned, directed in its operation (as is the caſe with many other inſtincts) by the experience of the individual. If man, therefore, had been deſtined for no other purpoſes, than to acquire ſuch an acquaintance with the courſe of nature, as is neceſſary for the preſervation of his animal exiſtence; he might have fulfilled all the ends of his being without the uſe of language.

As we are enabled, by our inſtinctive anticipation of phyſical events, to accommodate our conduct to

"quelque grande qu'elle ſoit, n'eſt pas une certitude. Aucune relation neceſſaire ne lie pour nous le paſſé a l'avenir, ni la conſtance de ce que j'ai vu a celle de ce que j'aurois continue d' obſerver ſi j'etois reſte dans des circonſtances ſemblables; mais l'impreſſion qui me porte a regarder comme exiſtant, comme reel ce qui m'a preſente ce caractere de conſtance, eſt irreſiſtible."——

Vie de TURGOT, partie ii. p. 56.

"Quand un François et un Anglois penſent de même, (ſays Voltaire) il faut bien qu'ils aient raiſon."

what we foreſee is to happen, ſo we are enabled, in many caſes, to increaſe our power, by employing phyſical cauſes as inſtruments for the accompliſhment of our purpoſes; nay, we can employ a ſeries of ſuch cauſes, ſo as to accompliſh very remote effects. We can employ the agency of air, to increaſe the heat of a furnace; the furnace, to render iron malleable; and the iron to all the various purpoſes of the mechanical arts. Now, it appears to me, that all this may be conceived and done without the aid of language: and yet, aſſuredly, to diſcover a ſeries of means ſubſervient to a particular end; or, in other words, an effort of mechanical invention, implies, according to the common doctrine of philoſophers, the exerciſe of our reaſoning powers. In this ſenſe, therefore, of the word reaſoning, I am inclined to think, that it is not eſſentially connected with the faculty of generaliſation, or with the uſe of ſigns.

It is ſome confirmation of this concluſion, that ſavages, whoſe minds are almoſt wholly occupied with particulars, and who have neither inclination nor capacity for general ſpeculations, are yet occaſionally obſerved to employ a long train of means for accompliſhing a particular purpoſe. Even ſomething of this kind, but in a very inferior degree, may, I think, be remarked in the other animals; and that they do not carry it farther, is probably not the effect of their want of generaliſation, but of the imperfection of ſome of thoſe faculties which are common to them with our ſpecies; particularly of their powers of attention and recollection. The inſtances which are commonly produced, to prove that they are not deſtitute of the power of reaſoning, are all examples of that ſpecies of contrivance which has been mentioned; and are perfectly diſtinct from thoſe intellectual proceſſes to which the uſe of ſigns is eſſentially ſubſervient.*

* One of the beſt atteſted inſtances which I have met

Whether that particular ſpecies of mechanical contrivance which has now been mentioned, and which conſiſts merely in employing a ſeries of phyſical cauſes to accompliſh an effect which we cannot produce immediately, ſhould or ſhould not be dignified with the name of reaſoning, I ſhall not now inquire. It is ſufficient for my preſent purpoſe to

with, of ſagacity in the lower animals, is mentioned by M. Bailly, in his *Lettre ſur les Animaux*, addreſſed to M. Le Roy.

"¡Un de mes amis, homme d'eſprit et digne de confiance, " m'a raconte deux faits dont il a ete temoin. Il avoit un " ſinge tres intelligent ; il s'amuſoit a lui donner des noix " dont l' animal etoit tres friand ; mais il les plaçoit aſſez " loin, pour que retenu par ſachaine, le ſinge ne put pas " les attendre : apres bien des efforts inutiles qui ne ſervent " qu'a preparer l'invention, le ſinge, voyant paſſer un do- " meſtique portant une ſerviette ſous le bras, ſe ſaiſit de cet- " te ſerviette, et s'en ſervit pour atteindre a la noix et l'am- " ener juſqu' a lui. La meniere de caſſer la noix exigea " une nouvelle invention ; il en vint a bout, en plaçant la " noix a terre, en y faiſant tomber de haut une pierre ou " un caillou pour la briſer. Vous voyez, Monſieur, que " ſans avoir connu, comme Galilee, les loix de la chute, des " corps, le ſinge avoit bien remarque la force que ces corps " acquirent par le chute. Ce moyen cependant ſe trouva " en defaut. Un jour qu'il avoit plu, la terre etoit molle, " la noix efonçoit, et la pierre n'avoit plus d'action pour la " briſer. Que fit le ſinge ? Il alla chercher un tuileau, plaça " la noix deſſus, et en laiſſant tomber la pierre il briſa la " noix qui n'enfonçoit plus."——*Diſcours et Memoires par l' Auteur de l' Hiſtorie de l' Aſtronomie.* A Paris, 1790, tome ii. p. 126.

Admitting theſe facts to be accurately ſtated, they ſtill leave an eſſential diſtinction between man and brutes; for in none of the contrivances here mentioned, is there anything analogous to thoſe intellectual proceſſes which lead the mind to general concluſions, and which (according to the foregoing doctrine) imply the uſe of general terms. Thoſe powers, therefore, which enable us to claſſify objects, and to employ ſigns as an inſtrument of thought, are, as far as we can judge, peculiar to the human ſpecies.

remark, that it is essentially different from those intellectual processes to which the use of signs is indispensably necessary. At the same time, I am ready to acknowledge, that what I have now said, is not strictly applicable to those more complicated mechanical inventions, in which a variety of powers are made to conspire at once to produce a particular effect. Such contrivances, pehaps may be found to involve processes of the mind which cannot be carried on without signs. But these questions will fall more properly under our consideration when we enter on the subject of reasoning.

In general, it may be remarked, that, in so far as our thoughts relate merely to individual objects, or to individual events, which we have actually perceived, and of which we retain a distinct remembrance,* we are not under the necessity of employing words. It frequently, however, happens, that

* I have thought it proper to add this limitation of the general proposition; because individual objects, and individual events which have not fallen under the examination of our senses, cannot possibly be made the subjects of our consideration, but by means of language. The manner in which we think of such objects and events, is accurately described in the following passage of Wollaston; however unphilosophical the conclusion may be which he deduces from his reasoning.

"A man is not known ever the more to posterity, because "his name is transmitted to them; he doth not live, because "his name does. When it is said, Julius Cæsar subdued "Gaul, beat Pompey, changed the Roman commonwealth "into a monarchy, &c. it is the same thing as to say, the "conqueror of Pompey was Cæsar; that is, Cæsar, and the "conqueror of Pompey are the same thing; and Cæsar is "as much known by the one distinction as the other. The "amount then is only this; that the conquerer of Pompey "conquered Pompey; or somebody conquered Pompey; "or rather, since Pompey is as little known now as Cæsar, "somebody conquered somebody. Such a poor business is "this boasted immortality; and such, as has here been des-"cribed, is the thing called glory among us!"

Religion of NAT. DEL. p. 117.

when the ſubjects of our conſideration are particular, our reaſoning with reſpect to them may involve very general notions; and, in ſuch caſes, although we may conceive, without the uſe of words, the things about which we reaſon, yet we muſt neceſſarily have recourſe to language in carrying on our ſpeculations concerning them. If the *ſubjects* of our reaſoning be general, (under which deſcription I include all our reaſonings, whether more or leſs comprehenſive, which do not relate merely to individuals,) words are the ſole objects about which our thoughts are employed. According as theſe words are comprehenſive or limited in their ſignification, the concluſions we form will be more or leſs general; but this accidental circumſtance does not in the leaſt affect the nature of the intellectual proceſs; ſo that it may be laid down as a propoſition which holds without any exception, that, in every caſe, in which we extend our ſpeculations beyond individuals, laguage is not only an uſeful auxiliary, but is the ſole inſtrument by which they are carried on.

Theſe remarks naturally lead me to take notice of what forms the characteriſtical diſtinction between the ſpeculations of the philoſopher and of the vulgar. It is not, that the former is accuſtomed to carry on his proceſſes of reaſoning to a greater extent than the latter; but that the concluſions he is accuſtomed to form, are far more comprehenſive, in conſequence of the habitual employment of more comprehenſive terms. Among the moſt unenlightened of mankind, we often meet with individuals who poſſeſs the reaſoning faculty in a very eminent degree; but as this faculty is employed merely about particulars, it never can conduct them to general truths; and, of conſequence, whether their purſuits in life lead them to ſpeculation or to action, it can only fit them for diſtinguiſhing themſelves in ſome very limited and ſubordinate ſphere. The philoſopher, whoſe mind has been familiariſed by education and by his

own reflexions, to the correct use of more comprehensive terms, is enabled, without perhaps a greater degree of intellectual exertion than is necessary for managing the details of ordinary business, to arrive at general theorems; which, when illustrated to the lower classes of men, in their particular applications, seem to indicate a fertility of invention, little short of supernatural.*

The analogy of the algebraical art may be of use in illustrating these observations. The difference, in fact, between the investigations we carry on by its assistance, and other processes of reasoning, is more inconsiderable than is commonly imagined; and, if I am not mistaken, amounts only to this, that the former are expressed in an appropriated language, with which we are not accustomed to associate particular notions. Hence they exhibit the efficacy of signs as an instrument of thought in a more distinct and palpable manner, than the speculations we carry on by words, which are continually awakening the power of Conception.

When the celebrated Vieta shewed algebraists that, by substituting in their investigations letters

* "Toutes les opinions philosophiques de M. Turgot formoient un system egalement, vaste et enchaine dans toutes ses parties. Souvent lorsqu'on agitoit devant lui une question particuliere d'administration de legislation, de jurisprudence, on voyoit avec etonnement qu'il avoit sur cette question, non une de ces opinion vagues fondees sur un premier apperçu, inspirees par une espece d'instinct, qu'on adopte au hazard, et qu'on defend ensuite par vanite, mais une opinion arretee, qui se lioit d'elle meme a son system general. Lui parloit-on d'un abus, d'un disordre, quel que fut le pays de l'Europe ou il regnat, quelle que fut la branche de la legislation qu'il eut infectee, il connoissoit l'origine du mal, ses effets, les causes qui en prolongient la duree et les moyens de la detruire. On eut cru qu'il en avoit fait l'objet particulier de ses reflections s'il n'eut ete facile de reconnoitre l'application simple naturelle de ces principes generaux."

Vie de TURGOT, *par* CONDORCET, partie ii. p. 54.

of the alphabet, inſtead of known quantities, they might render the ſolution of every problem ſubſervient to the diſcovery of a general truth, he did not increaſe the difficulty of algebraical reaſonings: he only enlarged the ſignification of the terms in which they were expreſſed. And if, in teaching that ſcience, it is found expedient to accuſtom ſtudents to ſolve problems by means of the particular numbers which are given, before they are made acquainted with literal or ſpecious arithmetic, it is not becauſe the former proceſſes are leſs intricate than the latter, but becauſe their ſcope and utility are more obvious, and becauſe it is more eaſy to illuſtrate, by examples than by words, the difference between a particular concluſion, and a general theorem.

The difference between the intellectual proceſſes of the vulgar and of the philoſopher, is perfectly analogous to that between the two ſtates of the algebraical art before and after the time of Vieta; the general terms which are uſed in the various ſciences, giving to thoſe who can employ them with correctneſs and dexterity, the ſame ſort of advantage over the uncultivated ſagacity of the bulk of mankind, which the expert algebraiſt poſſeſſes over the arithmetical accomptant.

If the foregoing doctrine be admitted as juſt, it exhibits a view of the utility of language, which appears to me to be peculiarly ſtriking and beautiful; as it ſhews that the ſame faculties which, without the uſe of ſigns, muſt neceſſarily have been limited to the conſideration of individual objects and particular events, are, by means of ſigns, fitted to embrace, without effort, thoſe comprehenſive theorems, to the diſcovery of which, in detail, the united efforts of the whole human race would have been unequal. The advantage our animal ſtrength acquires by the uſe of mechanical engines, exhibits but a faint image of that increaſe of our intellectual

capacity which we owe to language. It is this increaſe of our natural powers of comprehenſion, which ſeems to be the principal foundation of the pleaſure we receive from the diſcovery of general theorems. ſuch a diſcovery gives us at once the command of an infinite variety of particular truths, and communicates to the mind a ſentiment of its own power, not unlike to what we feel when we contemplate the magnitude of thoſe phyſical effects, of which we have acquired the command by our mechanical contrivances.

It may perhaps appear, at firſt, to be a farther conſequence of the principles I have been endeavouring to eſtabliſh, that the difficulty of philoſophical diſcoveries is much leſs than is commonly imagined; but the truth is it only follows from them, that this difficulty is of a different nature from what we are apt to ſuppoſe, on a ſuperficial view of the ſubject. To employ, with ſkill, the very delicate inſtrument which nature has made eſſentially ſubſervient to general reaſoning, and to guard againſt the errors which reſult from an injudicious uſe of it, require an uncommon capacity of patient attention, and a cautious circumſpection in conducting our various intellectual proceſſes, which can only be acquired by early habits of philoſophical reflection. To aſſiſt and direct us in making this acquiſition ought to form the moſt important branch of a rational logic; a ſcience of far more extenſive utility, and of which the principles lie much deeper in the philoſophy of the human mind, than the trifling art which is commonly dignified with that name. The branch in particular to which the foregoing obſervations more immediately relate, muſt forever remain in its infancy, till a moſt difficult and important deſideratum in the hiſtory of the mind is ſupplied, by an explanation of the gradual ſteps by which it acquires the uſe of the various claſſes of words which compoſe the language of a cultivated

and enlightentd people. Of ſome of the errors in reaſoning to which we are expoſed by an incautious uſe of words, I took notice in the preceding Section; and I ſhall have occaſion afterwards to treat the ſame ſubject more in detail in a ſubſequent part of my work.

SECTION VI.

Of the Errors to which we are liable in Speculation, and in the Conduct of Affairs, in conſequence of a raſh application of General Principles.

IT appears ſufficiently from the reaſonings which I offered in the preceding Section, how important are the advantages which the philoſopher acquires by quitting the ſtudy of particulars, and directing his attention to general principles. I flatter myſelf it appears farther, from the ſame reaſonings that it is in conſequence of the uſe of language alone, that the human mind is rendered capable of theſe comprehenſive ſpeculations.

In order, however, to proceed with ſafety in the uſe of general principles, much caution and addreſs are neceſſary, both in eſtabliſhing their truth, and in applying them to practice. Without a proper attention to the circumſtances, by which their application to particular caſes muſt be modified, they will be a perpetual ſource of miſtake and of diſappointment in the conduct of affairs, however rigidly juſt they may be in themſelves, and however accurately we may reaſon from them. If our general principles happen to be falſe, they will involve us in errors, not only of conduct but of ſpeculation; and our errors will be the more numerous, the more comprehenſive the principles are on which we proceed.

To illuſtrate theſe obſervations fully, would lead to a minuteneſs of diſquiſition inconſiſtent with my general plan; and I ſhall therefore, at preſent, confine myſelf to ſuch remarks as appear to be of moſt eſſential importance.

And, in the firſt place, it is evidently impoſſible to eſtabliſh ſolid general principles, without the previous ſtudy of particulars: in other words, it is neceſſary to begin with the examination of individual objects, and individual events; in order to lay a ground-work for accurate claſſification, and for a juſt inveſtigation of the laws of nature. It is in this way only that we can expect to arrive at general principles, which may be ſafely relied on, as guides to the knowledge of particular truths: and unleſs our principles admit of ſuch a practical application, however beautiful they may appear to be in theory they are of far leſs value than the limited acquiſitions of the vulgar. The truth of theſe remarks is now ſo univerſally admitted, and is indeed ſo obvious in itſelf, that it would be ſuperfluous to multiply words in ſupporting them; and I ſhould ſcarcely have thought of ſtating them in this Chapter, if ſome of the moſt celebrated philoſophers of antiquity had not been led to diſpute them, in conſequence of the miſtaken opinions which they entertained concerning the nature of univerſals. Forgetting that *genera* and *ſpecies* are mere arbitrary creations which the human mind forms, by withdrawing the attention from the diſtinguiſhing qualities of objects and giving a common name to their reſembling qualities, they conceived univerſals to be the real exiſtences, or (as they expreſſed it) to be the eſſences of individuals; and flattered themſelves with the belief, that by directing their attention to theſe eſſences, in the firſt inſtance, they might be enabled to penetrate the ſecrets of the univerſe, without ſubmitting to the ſtudy of nature in detail. Theſe errors, which were common to the Platoniſts and

the Peripatetics, and which both of them ſeem to have adopted from the Pythagorean ſchool, contributed, perhaps more than any thing elſe, to retard the progreſs of the ancients in phyſical knowledge. The late learned Mr. Harris is almoſt the only author of the preſent age who has ventured to defend this plan of philoſophiſing, in oppoſition to that which has been ſo ſucceſsfully followed by the diſciples of Lord Bacon.

"The Platoniſts," ſays he, "conſidering ſcience "as ſomething aſcertained, definite, and ſteady, "would admit nothing to be its object which was "vague, indefinite, and paſſing. For this reaſon "they excluded all individuals or objects of ſenſe, "and (as Ammonius expreſſes it) raiſed themſelves "in their contemplations from beings particular to "beings univerſal, and which, from their own na"ture, were eternal and definite."—"Conſonant "to this was the advice of Plato, with reſpect to "the progreſs of our ſpeculations and inquiries, to "deſcend from thoſe higher genera, which include "many ſubordinate ſpecies, down to the loweſt "rank of ſpecies, thoſe which include only individ"uals. But here it was his opinion, that our en"quiries ſhould ſtop, and, as to individuals, let "them wholly alone; becauſe of theſe there could "not poſſibly be any ſcience."*

"Such," continues this author, "was the me"thod of ancient philoſophy. The faſhion, at "preſent, appears to be ſomewhat altered, and the "buſineſs of philoſophers to be little elſe than the "collecting from every quarter into voluminous "records, an infinite number of ſenſible, particular, "and unconnected facts, the chief effect of which "is to excite our admiration."—In another part of his work the ſame author obſerves, that "the mind, "truly wiſe, quitting the ſtudy of particulars, as

* Harris's Three Treatiſes, pages 341, 342.

"knowing their multitude to be infinite and incom-
"prehenſible, turns its intellectual eye to what is
"general and comprehenſive, and through gen-
"erals learns to ſee, and recogniſe whatever
"exiſts."*

If we abſtract from theſe obvious errors of the ancient philoſophers, with reſpect to the proper order to be obſerved in our enquiries, and only ſuppoſe them to end where the Platoniſts ſaid they ſhould begin, the magnificent encomiums they beſtowed on the utility of thoſe comprehenſive truths, which form the objects of ſcience (making allowance for the obſcure and myſterious terms in which they expreſſed them) can ſcarcely be regarded as extravagant. It is probable that from a few accidental inſtances of ſucceſsful inveſtigation, they had been ſtruck with the wonderful effect of general principles in increaſing the intellectual power of the human mind; and, miſled by that impatience in the ſtudy of particulars which is ſo often connected with the conſcioufneſs of ſuperior ability, they laboured to perſuade themſelvas, that by a life devoted to abſtract meditation, ſuch principles might be rendered as immediate objects of intellectual perception, as the individuals which compoſe the material world are of our external ſenſes. By connecting this opinion with their other doctrines concerning univerſals, they were unfortunately enabled to exhibit it in ſo myſterious a form, as not only to impoſe on themſelves, but to perplex the underſtandings of all the learned in Europe, for a long ſucceſſion of ages.

The concluſion to which we are led by the foregoing obſervations is, that the foundation of all human knowledge muſt be laid in the examination of particular objects, and particular facts; and that it is only in ſo far as our general principles are reſolv-

* Harris's Three Treatiſes, page 227.

able into these primary elements, that they possess either truth or utility. It must not, however, be understood to be implied in this conclusion, that all our knowledge must ultimately rest on our own proper experience. If this were the case, the progress of science, and the progress of human improvement, must have been wonderfully retarded; for, if it had been necessary for each individul to form a classification of objects, in consequence of observations and abstractions of his own, and to infer from the actual examination of particular facts, the general truths on which his conduct proceeds; human affairs would at this day remain nearly in the same state to which they were brought by the experience of the first generation. In fact, this is very nearly the situation of the species in all those parts of the world, in which the existence of the race depends on the separate efforts which each individual makes, in procuring for himself the necessaries of life; and in which, of consequence, the habits and acquirements of each individual must be the result of his own personal experience. In a cultivated society, one of the first acquisitions which children make, is the use of language; by which means they are familiarised, from their earliest years to the consideration of classes of objects, and of general truths; and before that time of life at which the savage is possessed of the knowledge necessary for his own preservation, are enabled to appropriate to themselves the accumulated discoveries of ages.

Notwithstanding, however, the stationary condition in which the race must, of necessity, continue, prior to the separation of arts and professions; the natural disposition of the mind to ascend from particular truths to general conclusions, could not fail to lead individuals, even in the rudest state of society, to collect the results of their experience, for their own instruction and that of others. But,

without the uſe of general terms, the only poſſible way of communicating ſuch concluſions, would be by means of ſome particular example, of which the general application was ſtriking and obvious. In other words, the wiſdom of ſuch ages will neceſſarily be expreſſed in the form of fables or parables, or in the ſtill ſimpler form of proverbial inſtances; and not in the ſcientific form of general maxims. In this way, undoubtedly, much uſeful inſtruction, both of a prudential and moral kind, might be conveyed: at the ſame time, it is obvious, that, while general truths continued to be expreſſed merely by particular exemplifications, they would afford little or no opportunity to one generation to improve on the ſpeculations of another; as no effort of the underſtanding could combine them together, or employ them as premiſes, in order to obtain other concluſions more remote and comprehenſive. For this purpoſe, it is abſolutely neceſſary that the ſcope or moral of the fable ſhould be ſeparated entirely from its acceſſory circumſtances, and ſtated in the form of a general propoſition.

From what has now been ſaid, it appears, how much the progreſs of human reaſon, which neceſſarily accompanies the progreſs of ſociety, is owing to the introduction of general terms, and to the uſe of general propoſitions. In conſequence of the gradual improvements which take place in language as an inſtrument of thought, the claſſifications both of things and facts with which the infant faculties of each ſucceſſive race are converſant, are more juſt and more comprehenſive than thoſe of their predeceſſors: the diſcoveries which in one age were confined to the ſtudious and enlightened few, becoming in the next the eſtabliſhed creed of the learned; and in the third, forming part of the elementary principles of education. Indeed, among thoſe who enjoy the advantages of early inſtruction, ſome of the moſt remote and wonderful concluſions of the

human intellect, are, even in infancy, as completely familiarised to the mind, as the most obvious phenomena which the material world exhibits to their senses.

If these remarks concerning the progress of human reason be just, they afford delightful prospects with respect to the condition of mankind in future ages; as they point out a provision which nature has made for a gradual improvement in their intellectual capacities; an improvement to which it is impossible for imagination to fix any boundary. As I propose, however, afterwards, to consider this subject fully, I shall content myself at present with mentioning the encouragement which these prospects receive from what has already happened in mathematics and natural philosophy; two sciences, which furnish a very striking illustration of the principles I have been endeavouring to establish, and which justify the most sanguine expectations we can form, of the advancement of all the other branches of our knowledge. In this last observation I have been anticipated by Mr. Condorcet, with the authority of whose name I am happy in being able to confirm some of the foregoing speculations.

"To such of my readers," (says he,) "as may be "slow in admitting the possibility of this progressive "improvement in the human race, allow me to state "as an example, the history of that science in which "the advances of discovery are the most certain, and "in which they may be measured with the greatest "precision. Those elementary truths of geometry "and of astronomy which, in India and Egypt, "formed an occult science, upon which an ambitious "priesthood founded its influence, were become, in "the times of Archimedes and Hipparchus, the sub-"jects of common education in the public schools of "Greece. In the last century, a few years of study "were sufficient for comprehending all that Archi-"medes and Hipparchus knew; and, at present two

"years employed under an able teacher, carry the "ſtudent beyond thoſe concluſions, which limited "the inquiries of Leibnitz and of Newton. Let any "perſon reflect on theſe facts: let him follow the "immenſe chain which connects the inquiries of Eu-"ler with thoſe of a Prieſt of Memphis; let him ob-"ſerve at each epoch, how genius outſtrips the pre-"ſent age, and how it is overtaken by mediocrity "in the next; he will perceive, that nature has "furniſhed us with the means of abridging and fa-"cilitating our intellectual labour, and that there is "no reaſon for apprehending that ſuch ſimplifica-"tions can ever have an end. He will perceive "that at the moment when a multitude of partic-"ular ſolutions, and of inſulated facts, begin to diſ-"tract the attention, and to overcharge the memo-"ry, the former gradually loſe themſelves in one "general method, and the latter unite in one gen-"eral law; and that theſe generaliſations con-"tinually ſucceeding one to another, like the ſuc-"ceſſive multiplications of a number by itſelf, have "no other limit, than that infinity which the hu-"man faculties are unable to comprehend."*

SECTION VII.

Continuation of the ſame Subject.——Differences in the Intellectual Characters of Individuals ariſing from their different Habits of Abſtraction and Generaliſation.

IN mentioning as one of the principal effects of civilization, its tendency to familiarize the mind to general terms and to general propoſitions, I did not mean to ſay, that this influence extends equally to

* See note [M.]

all the classes of men in society. On the contrary, it is evidently confined, in a great measure, to those who receive a liberal education; while the minds of the lower orders, like those of savages, are so habitually occupied about particular objects, and particular events, that, although they are sometimes led, from imitation, to employ general expressions, the use which they make of them is much more the result of memory than judgment; and it is but seldom that they are able to comprehend fully, any process of reasoning in which they are involved.

It is hardly necessary for me to remark, that this observation, with respect to the incapacity of the vulgar for general speculations, (like all observations of a similar nature) must be received with some restrictions. In such a state of society as that in which we live, there is hardly any individual to be found to whom some general terms, and some general truths, are not perfectly familiar; and, therefore, the foregoing conclusions are to be considered as descriptive of those habits of thought alone, which are most prevalent in their mind. To abridge the labour of reasoning, and of memory, by directing the attention to general principles, instead of particular truths, is the professed aim of all philosophy; and according as individuals have more or less of the philosophic spirit, their habitual speculations (whatever the nature of their pursuits may be) will relate to the former, or to the latter, of these objects.

There are, therefore, among the men who are accustomed to the exercise of their intellectual powers two classes, whose habits of thought are remarkably distinguished from each other; the one class comprehending what we commonly call men of business, or, more properly, men of detail; the other men of abstraction; or, in other words, philosophers.

The advantages which in certain reſpects, the latter of theſe poſſeſs over the former, have been already pointed out; but it muſt not be ſuppoſed, that theſe advantages are always purchaſed without ſome inconvenience. As the ſolidity of our general principles depends on the accuracy of the particular obſervations into which they are ultimately reſolvable, ſo their utility is to be eſtimated by the practical applications of which they admit: and it unfortunately happens, that the ſame turn of mind which is favourable to philoſophical purſuits, unleſs it be kept under proper regulation, is extremely apt to diſqualify us for applying our knowledge to uſe, in the exerciſe of the arts, and in the conduct of affairs.

In order to perceive the truth of theſe remarks, it is almoſt ſufficient to recollect, that as claſſification and, of conſequence, general reaſoning, preſuppoſe the exerciſe of abſtraction; a natural diſpoſition to indulge in them, cannot fail to lead the mind to overlook the ſpecific differences of things, in attending to their common qualities. To ſucceed, however, in practice, a familiar and circumſtantial acquaintance with the particular objects which fall under our obſervation, is indiſpenſibly neceſſary.

But, farther: As all general principles are founded on claſſifications which imply the exerciſe of abſtraction; it is neceſſary to regard them, in their practical applications, merely as approximations to the truth; the defects of which, muſt be ſupplied by habits acquired by perſonal experience. In conſidering, for example, the theory of the mechanical powers; it is uſual to ſimplify the objects of our conception, by abſtracting from friction, and from the weight of the different parts of which they are compoſed. Levers are conſidered as mathematical lines, perfectly inflexible; and ropes, as mathematical lines, perfectly flexible;—and by means of theſe, and ſimilar abſtractions, a ſubject, which is in itſelf

extremely complicated, is brought within the reach of elementary Geometry. In the theory of politics we find it neceſſary to abſtract from many peculiarities which diſtinguiſh different forms of government from each other, and to reduce them to certain general claſſes, according to their prevailing tendency. Although all the governments we have ever ſeen, have had more or leſs of mixture in their compoſition, we reaſon concerning pure monarchies, pure ariſtocracies, and pure democracies, as if there really exiſted political eſtabliſhments correſponding to our definitions. Without ſuch a claſſification it would be impoſſible for us to fix our attention, amidſt the multiplicity of particulars which the ſubject preſents to us, or to arrive at any general principles, which might ſerve to guide our inquiries in comparing different inſtitutions together.

It is for a ſimilar reaſon, that the ſpeculative farmer reduces the infinite variety of ſoils to a few general deſcriptions; the phyſician, the infinite variety of bodily conſtitutions to a few temperaments; and the moraliſt, the infinite variety of human characters to a few of the ruling principles of action.

Notwithſtanding, however, the obvious advantages we derive from theſe claſſifications, and the general concluſions to which they lead; it is evidently impoſſible, that principles, which derived their origin from efforts of abſtraction ſhould apply literally to practice; or, indeed that they ſhould afford us any conſiderable aſſiſtance in conduct, without a certain degree of practical and experimental ſkill. Hence it is, that the mere theoriſt ſo frequently expoſes himſelf in real life, to the ridicule of men whom he diſpiſes; and, in the general eſtimation of the world, falls below the level of the common drudges in buſineſs and the arts. The walk indeed, of theſe unenlightened practitioners, muſt neceſſarily be limited by their accidental opportunities of experience; but ſo far as they go, they op-

erate with facility and ſucceſs; while the merely ſpeculative philoſopher, although poſſeſſed of principles which enable him to approximate to the truth, in an infinite variety of untried caſes, and although he ſees, with pity, the narrow views of the multitude and the ludicrous pretenſions with which they frequently oppoſe their trifling ſucceſſes to his theoretical ſpeculations, finds himſelf perfectly at a loſs, when he is called upon, by the ſimpleſt occurrences of ordinary life, to carry his principles into execution. Hence the origin of that maxim, "which" (as Mr. Hume remarks) "has been ſo induſtriouſ-" "ly propagated by the dunces of every age, that a "man of genius is unfit for buſineſs."

In what conſiſts practical or experimental ſkill, it is not eaſy to explain completely; but, among other things, it obviouſly implies, a talent for minute and comprehenſive and rapid obſervation; a memory, at once retentive and ready; in order to preſent to us accurately, and without reflection, our theoretical knowledge; a preſence of mind, not to be diſconcerted by unexpected occurrences; and in ſome caſes, an uncommon degree of perfection in the external ſenſes, and in the mechanical capacities of the body. All theſe elements of practical ſkill it is obvious, are to be acquired only by habits of active exertion, and by a familiar acquaintance with real occurrences; for, as all the practical principles of our nature, both intellectual and animal, have a reference to particulars, and not to generals, ſo it is in the active ſcenes of life alone, and amidſt the details of buſineſs, that they can be cultivated and improved.

The remarks which have been already made, are ſufficient to illuſtrate the impoſſibility of acquiring a talent for buſineſs, or for any of the practical arts of life without actual experience. They ſhew alſo, that mere experience, without theory, may qualify a man, in certain caſes, for diſtinguiſhing himſelf in

both. It is not, however, to be imagined, that in this way individuals are to be formed for the uncommon, or for the important, situations of society or even for enriching the arts by new inventions; for, as their address and dexterity are founded entirely on imitation, or derived from the lessons which experience has suggested to them, they cannot possibly extend to new combinations of circumstances. Mere experience, therefore, can, at best, prepare the mind for the subordinate departments of life; for conducting the established routine of business, or for a servile repetition in the arts of common operations.

In the Character of Mr. George Grenville, which Mr. Burke introduced in his celebrated Speech on American Taxation, a lively picture is drawn of the insufficiency of mere experience, to qualify a man for new and untried situations in the administration of government. The observations he makes on this subject, are expressed with his usual beauty and felicity of language; and are of so general a nature, that, with some trifling, alterations, they may be extended to all the practical pursuits of life.

"Mr. Grenville was bred to the law, which is, in "my opinion, one of the first and noblest of human "sciences; a science which does more to quicken and "invigorate the understanding, than all the other "kinds of learning put together; but it is not apt, "except in persons very happily born, to open and to "liberalise the mind exactly in the same proportion. "Passing from that study, he did not go very largely "into the world, but plunged into business; I mean, "into the business of office, and the limited and "fixed methods and forms established there. Much "knowledge is to be had, undoubtedly, in that line; "and there is no knowledge which is not valuable. "But it may be truly said, that men, too much "conversant in office, are rarely minds of remarka-"ble enlargement. Their habits of office are apt to "give them a turn to think the substance of business

" not to be much more important, than the forms " in which it is conducted. These forms are ad- " apted to ordinary occasions ; and, therefore, per- " sons who are nurtured in office, do admirably " well, as long as things go on in their common " order ; but when the high roads are broken up, " and the waters out, when a new and troubled " scene is opened, and the file affords no precedent, " then it is, that a greater knowledge of mankind, " and a far more extensive comprehension of things, " is requisite, than ever office gave, or than office " can ever give."

Nor is it in new combinations of circumstances alone, that general principles assist us in the conduct of affairs : they render the application of our practical skill more unerring, and more perfect. For, as general principles limit the utility of practical skill to supply the imperfections of theory, they diminish the number of cases in which this skill is to be employed ; and thus, at once, facilitate its improvement, wherever it is requisite ; and lessen the errors to which it is liable, by contracting the field within which it is possible to commit them,

It would appear then, that there are two opposite extremes into which men are apt to fall, in preparing themselves for the duties of active life. The one arises from habits of abstraction and generalisation carried to an excess ; the other from a minute an exclusive, and an unenlightened attention to the objects and events which happen to fall under their actual experience.

In a perfect system of education, care should be taken to guard against both extremes, and to unite habits of abstraction with habits of business, in such a manner as to enable men to consider things, either in general, or in detail, as the occasion may require. Whichever of these habits may happen to gain an undue ascendant over the mind, it will necessarily produce a character limited in its powers, and fitted

only for particular exertions. Hence ſome of the apparent inconſiſtencies which we may frequently remark in the intellectual capacities of the ſame perſon. One man, from an early indulgence in abſtract ſpeculation, poſſeſſes a knowledge of general principles, and a talent for general reaſoning, united with a fluency and eloquence in the uſe of general terms, which ſeem, to the vulgar, to announce abilities fitted for any given ſituation in life: while, in the conduct of the ſimpleſt affairs, he exhibits every mark of irreſolution and incapacity. Another not only acts with propriety and ſkill, in circumſtances which require a minute attention to details, but poſſeſſes an acuteneſs of reaſoning, and a facility of expreſſion on all ſubjects, in which nothing but what is particular is involved; while, on general topics, he is perfectly unable either to reaſon, or to judge. It is this laſt turn of mind, which I think we have, in moſt inſtances, in view, when we ſpeak of good ſenſe, or common ſenſe, in oppoſition to ſcience and philoſophy. Both philoſophy and good ſenſe imply the exerciſe of our reaſoning powers; and they differ from each other only, according as theſe powers are applied to particulars or to generals. It is on good ſenſe (in the acceptation in which I have now explained the term) that the ſucceſs of men in the inferior walks of life chiefly depends; but, that it does not always indicate a capacity for abſtract ſcience, or for general ſpeculation, or for able conduct in ſituations which require comprehenſive views, is matter even of vulgar remark.

Although, however, each of theſe defects has a tendency to limit the utility of the individuals in whom it is to be found, to certain ſtations in ſociety; no compariſon can be made, in point of original value, between the intellectual capacities of the two claſſes of men to which they characteriſtically belong. The one is the defect of a vigorous, an ambitious, and a comprehenſive genius, improp-

erly directed; the other, of an underſtanding, mi-
nute and circumſcribed in its views, timid in its
exertions, and formed for ſervile imitation. Nor
is the former defect, (however difficult it may be
to remove it when confirmed by long habit,) by any
means ſo incurable as the latter; for it ariſes, not
from original conſtitution, but from ſome fault in
early education, while every tendency to the oppo-
ſite extreme is more or leſs characteriſtical of a mind
uſeful, indeed, in a high degree, when confined to
its proper ſphere, but deſtined, by the hand that
formed it, to borrow its lights from another.

As an additional proof of the natural ſuperiority
which men of general views poſſeſs over the com-
mon drudges in buſineſs, it may be farther obſerv-
ed, that the habits of inattention incident to the
former, ariſe in part from the little intereſt which
they take in particular objects and particular occur-
rences, and are not wholly to be aſcribed to an in-
capacity of attention. When the mind has been
long accuſtomed to the conſideration of claſſes of
objects, and of comprehenſive theorems, it cannot
without ſome degree of effort, deſcend to that hum-
ble walk of experience, or of action, in which the
meaneſt of mankind are on a level with the greateſt.
In important ſituations, accordingly, men of the
moſt general views, are found not to be inferior to
the vulgar in their attention to details; becauſe
the objects and occurrences which ſuch ſituations
preſent, rouſe their paſſions, and intereſt their curi-
oſity, from the magnitude of the conſequences to
which they lead.

When theoretical knowledge and practical ſkill
are happily combined in the ſame perſon, the intel-
lectual power of man appears in its full perfection;
and fits him equally to conduct, with a maſterly
hand, the details of ordinary buſineſs, and to con-
tend ſucceſsfully with the untried difficulties of
new and hazardous ſituations. In conducting the

former, mere experience may frequently be a sufficient guide, but experience and speculation must be combined together to prepare us for the latter. "Expert men," says Lord Bacon, "can execute "and judge of particulars one by one; but the "general councils, and the plots, and the marshalling of affairs, come best from those that are "learned."

SECTION VIII.

Continuation of the same Subject.——Use and Abuse of general Principles in Politics.

THE foregoing remarks, on the dangers to be apprehended from a rash application of general principles, hold equally with respect to most of the practical arts. Among these, however, there is one of far superior dignity to the rest; which, partly on account of its importance, and partly on account of some peculiarities in its nature, seems to be entitled to a more particular consideration. The art I allude to, is that of Legislation; an art which differs from all others in some very essential respects; and to which, the reasonings in the last Section must be applied with many restrictions.

Before proceeding farther, it is necessary for me to premise, that it is chiefly in compliance with common language and common prejudices, that I am sometimes led, in the following observations, to contrast theory with experience. In the proper sense of the word Theory, it is so far from standing in opposition to experience, that it implies a knowledge of principles, of which the most extensive experience alone could put us in possession. Prior to the time of Lord Bacon, indeed, an acquaintance with facts was not considered as essential to the for-

mation of theories; and from these ages, has descended to us, an indiscriminate prejudice against general principles, even in those cases in which they have been fairly obtained in the way of induction.

But not to dispute about words: there are plainly two sets of political reasoners; one of which consider the actual institutions of mankind as the only safe foundation for our conclusions, and think every plan of legislation chimerical, which is not copied from one which has already been realised; while the other apprehend that, in many cases, we may reason safely *a priori* from the known principles of human nature, combined with the particular circumstances of the times. The former are commonly understood as contending for experience in opposition to theory; the latter are accused of trusting to theory unsupported by experience: but it ought to be remembered, that the political theorist, if he proceeds cautiously and philosophically, founds his conclusions ultimately on experience, no less than the political empiric;—as the astronomer, who predicts an eclipse from his knowledge of the principles of the science, rests his expectation of the event, on facts which have been previously ascertained by observation, no less than if he inferred it, without any reasoning, from his knowledge of a cycle.

There is, indeed, a certain degree of practical skill which habits of business alone can give, and without which the most enlightened politician must always appear to disadvantage when he attempts to carry his plans into execution. And as this skill is often (in consequence of the ambiguity of language) denoted by the word Experience; while it is seldom possessed by those men, who have most carefully studied the theory of legislation; it has been very generally concluded, that politics is merely a matter of routine, in which philosophy is rather an obstacle to success. The statesman who has been

formed among official details, is compared to the practical engineer; the ſpeculative legiſlator, to the theoretical mechanician who has paſſed his life among books and diagrams.—In order to aſcertain how far this opinion is juſt, it may be of uſe to compare the art of legiſlation with thoſe practical applications of mechanical principles, by which the oppoſers of political theories have ſo often endeavoured to illuſtrate their reaſonings.

I. In the firſt place, then, it may be remarked, that the errors to which we are liable, in the uſe of general mechanical principles, are owing, in moſt inſtances, to the effect which habits of abſtraction are apt to have, in withdrawing the attention from thoſe applications of our knowledge, by which alone we can learn to correct the imperfections of theory. Such errors, therefore, are, in a peculiar degree, incident to men who have been led by natural taſte, or by early habits, to prefer the ſpeculations of the cloſet, to the buſtle of active life, and to the fatigue of minute and circumſtantial obſervation.

In politics, too, one ſpecies of principles is often miſapplied from an inattention to circumſtances; thoſe which are deduced from a few examples of particular governments, and which are occaſionally quoted as univerſal political axioms, which every wiſe legiſlator ought to aſſume as the groundwork of his reaſonings. But this abuſe of general principles ſhould by no means be aſcribed, like the abſurdities of the ſpeculative mechanician, to over-refinement, and the love of theory; for it ariſes from weakneſſes, which philoſophy alone can remedy; an unenlightened veneration for maxims which are ſuppoſed to have the ſanction of time in their favour, and a paſſive acquieſcence in received opinions.

There is another claſs of principles, from which political concluſions have ſometimes been deduced; and which notwithſtanding the common prejudice

againſt them, are a much ſurer foundation for our reaſonings; I allude, at preſent, to thoſe principles which we obtain from an examination of the human conſtitution, and of the general laws which regulate the courſe of human affairs; principles, which are certainly the reſult of a much more extenſive induction than any of the inferences that can be drawn from the hiſtory of actual eſtabliſhments.

In applying, indeed, ſuch principles to practice it is neceſſary (as well as in mechanics) to pay attention to the peculiarities of the caſe; but it is by no means neceſſary to pay the ſame ſcrupulous attention to minute circumſtances, which is eſſential in the mechanichal arts, or in the management of private buſineſs. There is even a danger of dwelling too much on details, and of rendering the mind incapable of thoſe abſtract and comprehenſive views of human affairs, which can alone furniſh the ſtateſman with fixed and certain maxims for the regulation of his conduct. "When a man, (ſays Mr. "Hume) deliberates concerning his conduct in any "*particular* affair and forms ſchemes in politics, trade "œconomy, or any buſineſs in life, he never ought "to draw his arguments too fine, or connect too "long a chain of conſequences together. Some- "thing is ſure to happen, that will diſconcert his "reaſoning, and produce an event different from "what he expected. But when we reaſon upon "*general* ſubjects, one may juſtly affirm, that our "ſpeculations can ſcarce ever be too fine, provided "they are juſt; and that the difference betwixt a "common man and a man of genius, is chiefly ſeen "in the ſhallowneſs or depth of the principles upon "which they proceed.—'Tis certain that general "principles however intricate they may ſeem, muſt "always, if they are juſt and ſound, prevail in the "general courſe of things, though they may fail in "particular caſes; and it is the chief buſineſs of "philoſophers to regard the general courſe of things.

" I may add, that it is alſo the chief buſineſs of po-
" liticians; eſpecially in the domeſtic government
" of the ſtate, where the public good, which is, or
" ought to be, their object, depends on the con-
" currence of a multitude of caſes, not, as in foreign
" politics, upon accidents, and chances, and the ca-
" prices of a few perſons."*

II. The difficulties which, in the mechanical arts, limit the application of general principles, remain invariably the ſame from age to age; and whatever obſervations we have made on them in the courſe of our paſt experience, lay a ſure foundation for future practical ſkill; and ſupply, in ſo far as they reach, the defects of our theories. In the art of government, however, the practical difficulties which occur, are of a very different nature. They do not preſent to the ſtateſman, the ſame ſteady ſubject of examination, which the effects of friction do to the engineer. They ariſe chiefly from the paſſions and opinions of men, which are in a ſtate of perpetual change; and therefore, the addreſs which is neceſſary to overcome them, depends leſs on the accuracy of our obſervations with reſpect to the paſt, than on the ſagacity of our conjecture with reſpect to the future. In the preſent age, more particularly, when the rapid communication, and the univerſal diffuſion of knowledge, by means of the preſs, render the ſituation of political ſocieties, eſſentially different from what it ever was formerly, and ſecure infallibly, againſt every accident, the progreſs of human reaſon; we may venture to predict, that they are to be the moſt ſucceſsful ſtateſman, who paying all due regard to paſt experience, ſearch for the rules of their conduct chiefly in the peculiar circumſtances of their own times, and in an unenlightened anticipation of the future hiſtory of mankind.

III. In the mechanical arts, if, at any time, we

* Political Diſcourſes.

are at a loſs about the certainty of a particular fact, we have it always in our power to bring it to the teſt of experiment. But it is very ſeldom that we can obtain in this way any uſeful concluſion in politics: not only becauſe it is difficult to find two caſes in which the combinations of circumſtances are preciſely the ſame, but becauſe our acquaintance with the political experience of mankind is much more imperfect than is commonly imagined. By far the greater part of what is called matter of fact, in politics, is nothing elſe than theory; and, very frequently, in this ſcience, when we think we are oppoſing experience to ſpeculation, we are only oppoſing one theory to another.

To be ſatisfied of the truth of this obſervation, it is almoſt ſufficient to recollect how extremely difficult it is to convey, by a general deſcription a juſt idea of the actual ſtate of any government. That every ſuch deſcription muſt neceſſarily be more or leſs theoretical, will appear from the following remarks.

1. Of the governments which have hitherto appeared in the hiſtory of mankind, few or none have taken their riſe from political wiſdom, but have been the gradual reſult of time and experience, of circumſtances and emergencies. In proceſs of time, indeed, every government acquires a ſyſtematical appearance: for, although its different parts aroſe from circumſtances which may be regarded as accidental and irregular; yet there muſt exiſt, among theſe parts, a certain degree of conſiſtency and analogy. Wherever a government has exiſted for ages and men have enjoyed tranquillity under it, it is a proof that its principles are not eſſentially at variance with each other. Every new inſtitution which was introduced, muſt have had a certain reference to the laws and uſages, exiſting before, otherwiſe it could not have been permanent in its operation. If any one, contrary to the ſpirit of the reſt, ſhould

have occaſionally mingled with them, it muſt have ſoon fallen into deſuetude and oblivion; and thoſe alone would remain, which accorded, in their general tendency. "Quæ uſu obtinuere," ſays Lord Bacon, "ſi non bona, at ſaltem apta inter ſe "ſunt."

The neceſſity of ſtudying particular conſtitutions of government, by the help of ſyſtematical deſcriptions of them, (ſuch deſcriptions, for example, as are given of that of England by Monteſquieu and Blackſtone) ariſes from the ſame circumſtances, which render it expedient, in moſt inſtances, to ſtudy particular languages, by conſulting the writings of grammarians. In both caſes, the knowledge we wiſh to acquire, comprehends an infinite number of particulars, the conſideration of which, in detail, would diſtract the attention, and overload the memory. The ſyſtematical deſcriptions of politicians, like the general rules of grammarians, are in a high degree uſeful, for arranging and ſimplifying, the objects of our ſtudy; but in both caſes, we muſt remember, that the knowledge we acquire in this manner, is to be received with great limitations, and that it is no more poſſible to convey, in a ſyſtematical form, a juſt and complete idea of a particular government, than it is to teach a language completely by means of general rules, without any practical aſſiſtance from reading or converſation.

2. The nature and ſpirit of a government, as it is actually exerciſed at a particular period, cannot always be collected; perhaps it can ſeldom be collected from an examination of written laws, or of the eſtabliſhed forms of a conſtitution. Theſe may continue the ſame for a long courſe of ages, while the government may be modified in its exerciſe, to a great extent, by gradual and undeſcribable alterations in the ideas, manners and character, of the people; or by a change in the relations which different orders of the community bear to each other-

In every country whatever, beſides the eſtabliſhed laws, the political ſtate of the people is affected by an infinite variety of circumſtances, of which no words can convey a conception, and which are to be collected only from actual obſervation. Even in this way, it is not eaſy for a perſon who has received his education in one country, to ſtudy the government of another; on account of the difficulty which he muſt neceſſarily experience, in entering into the aſſociations which influence the mind under a different ſyſtem of manners, and in aſcertaining (eſpecially upon political ſubjects) the complex ideas conveyed by a foreign language.

In conſequence of the cauſes which have now been mention, it ſometimes happens, that there are eſſential circumſtances in the actual ſtate of a government, about which the conſtitutional laws are not only ſilent, but which are directly contrary to all the written laws, and to the ſpirit of the conſtitution as delineated by theoretical writers.

IV. The art of government differs from the mechanical arts in this, that, in the former, it is much more difficult to refer effects to their cauſes, than in the latter; and, of conſequence, it rarely happens, even when we have an opportunity of ſeeing a political experiment made, that we can draw from it any certain inference, with reſpect to the juſtneſs of the principles by which it was ſuggeſted. In thoſe complicated machines, to which the ſtructure of civil ſociety has been frequently compared, as all the different parts of which they are compoſed are ſubjected to phyſical laws, the errors of the artiſt muſt neceſſarily become apparent in the laſt reſult; but in the political ſyſtem, as well as in the animal body, where the general conſtitution is ſound and healthy, there is a ſort of *vis medicatrix*, which is ſufficient for the cure of partial diſorders; and in the one caſe, as well as in the other, the errors of human art are frequently corrected and concealed by

the wiſdom of nature. Among the many falſe eſtimates which we daily make of human ability, there is perhaps none more groundleſs than the exaggerated conceptions we are apt to form of that ſpecies of political wiſdom, which is ſuppoſed to be the fruit of long experience and of profeſſional habits. "Go;" (ſaid the chancellor Oxenſtiern to his ſon, when he was ſending him to a congreſs of ambaſſadors, and when the young man was expreſſing his diffidence of his own abilities for ſuch an employment;) "Go, and ſee with your own eyes, *Quam parva ſapientia regitur mundus!*" The truth is, (however paradoxical the remark may appear at firſt view,) that the ſpeculative errors of ſtateſmen are frequently leſs ſenſible in their effects, and, of conſequence, more likely to eſcape without detection, than thoſe of individuals who occupy inferior ſtations in ſociety. The effects of miſconduct in private life, are eaſily traced to their proper ſource, and therefore the world is ſeldom far wrong in the judgment which it forms of the prudence or of the imprudence of private characters. But in conſidering the affairs of a great nation, it is ſo difficult to trace events to their proper cauſes, and to diſtinguiſh the effects of political wiſdom, from thoſe which are the natural reſult of the ſituation of the people, that it is ſcarcely poſſible, excepting in the caſe of a very long adminiſtration, to appreciate the talents of a ſtateſman from the ſucceſs or the failure of his meaſures. In every ſociety, too, which, in conſequence of the general ſpirit of its government, enjoys the bleſſings of tranquillity and liberty, a great part of the political order which we are apt to aſcribe to legiſlative ſagacity, is the natural reſult of the ſelfiſh purſuits of individuals; nay, in every ſuch ſociety, (as I already hinted,) the natural tendency to improvement is ſo ſtrong, as to overcome many powerful obſtacles, which the imperfection of human inſtitutions oppoſes to its progreſs.

From theſe remarks, it ſeems to follow, that, although in the mechanical arts, the errors of theory may frequently be corrected by repeated trials, without having recourſe to general principles; yet, in the machine of government, there is ſo great a variety of powers at work, beſide the influence of the ſtateſman, that it is vain to expect the art of legiſlation ſhould be carried to its greateſt poſſible perfection by experience alone.

Still, however, it may be ſaid, that in the moſt imperfect governments of modern Europe, we have an experimental proof, that they ſecure, to a very great degree, the principal objects of the ſocial union. Why hazard theſe certain advantages, for the uncertain effects of changes, ſuggeſted by mere theory; and not reſt ſatisfied with a meaſure of political happineſs, which appears, from the hiſtory of the world, to be greater than has commonly fallen to the lot of nations?

With thoſe who would carry their zeal againſt reformation ſo far, it is impoſſible to argue: and it only remains for us to regret, that the number of ſuch reaſoners has, in all ages of the world, been ſo great, and their influence on human affairs ſo extenſive.

"There are ſome men," (ſays Dr. Johnſon,) of "narrow views, and grovelling conceptions, who, "without the inſtigation of perſonal malice, treat "every new attempt as wild and chimerical; and "look upon every endeavour to depart from the "beaten track, as the raſh effort of a warm imagination, or the glittering ſpeculation of an exalted "mind, that may pleaſe and dazzle for a time, but "can produce no real or laſting advantage.

"Theſe men value themſelves upon a perpetual "ſcepticiſm; upon believing nothing but their own "ſenſes; upon calling for demonſtration where it "cannot poſſibly be obtained; and, ſometimes, upon holding out againſt it when it is laid before

" them; upon inventing arguments againſt the ſuc-
" ceſs of any new undertaking; and, where argu-
" ments cannot be found, upon treating it with con-
" tempt and ridicule."

" Such have been the moſt formidable enemies of
" the great benefactors of the world; for their no-
" tions and diſcourſe are ſo agreeable to the lazy,
" the envious, and the timorous, that they ſeldom
" fail of becoming popular, and directing the opin-
" ions of mankind."*

With reſpect to this ſceptical diſpoſition, as applicable to the preſent ſtate of ſociety, it is of importance to add, that, in every government, the ſtability and the influence of eſtabliſhed authority, muſt depend on the coincidence between its meaſures and the title of public opinion; and that, in modern Europe, in conſequence of the invention of printing, and the liberty of the preſs public opinion has acquired an aſcendant in human affairs, which it never poſſeſſed in thoſe ſtates of antiquity from which moſt of our political examples are drawn. The danger, indeed, of ſudden and raſh innovations cannot be too ſtrongly inculcated; and the views of thoſe men who are forward to promote them, cannot be reprobated with too great ſeverity. But it is poſſible alſo to fall into the oppoſite extreme; and to bring upon ſociety the very evils we are anxious to prevent, by an obſtinate oppoſition to thoſe gradual and neceſſary reformations which the genius of the times demands. The violent revolutions which at different periods, have convulſed modern Europe have ariſen, not from a ſpirit of innovation in ſovereigns and ſtateſmen; but from their bigoted attachment to antiquidated forms, and to principles borrowed from leſs enlightened ages. It is this reverence for abuſes which have been ſanctioned by time, accompanied with an inattention to the progreſs of public opinion, which has, in moſt

* Life of DRAKE, by Dr. JOHNSON.

inſtances, blinded the rulers of mankind, till government has loſt all its efficiency; and till the rage of innovation has become too general and too violent, to be ſatisfied with changes, which if propoſed at an earlier period, would have united, in the ſupport of eſtabliſhed inſtitutions every friend to order, and to the proſperity of his country.

Theſe obſervations I ſtate with the greater confidence that the ſubſtance of them is contained in the following aphoriſms of Lord Bacon; a philoſopher who (if we except, perhaps the late Mr. Turgot) ſeems, more than any other, to have formed enlightened views with reſpect to the poſſible attainments of mankind; and whoſe fame cannot fail to increaſe as the world grows older, by being attached not to a particular ſyſtem of variable opinions, but to the general and infallible progreſs of human reaſon.

"Quis novator tempus imitatur, quod novationes "ita inſinuat, ut ſenſus fallant?

"Novator maximus tempus; quidni igitur tem- "pus imitemur?

"Moroſa morum retentio, res turbulenta eſt, "æque ac novitas.

"Cum per ſe res mutentur in deterius, ſi conſil- "io in melius non mutentur, quis finis erit mali?"

The general concluſion to which theſe obſervations lead, is ſufficiently obvious; that the perfection of political wiſdom does not conſiſt in an indiſcriminate zeal againſt reforms, but in a gradual and prudent accommodation of eſtabliſhed inſtitutions to the varying opinions, manners, and circumſtances of mankind. In the actual application, however, of this principle, many difficulties occur, which it requires a very rare combination of talents to ſurmount: more particularly in the preſent age; when the preſs has, to ſo wonderful a degree, emancipated human reaſon from the tyranny of an-

cient prejudices; and has roused a spirit of free discussion, unexampled in the history of foreign times.

That this sudden change in the state of the world should be accompanied with some temporary disorders, is by no means surprising. While the multitude continue imperfectly enlightened, they will be occasionally misled by the artifices of demagogues; and even good men, intoxicated with ideas of theoretical perfection, may be expected, sometimes, to sacrifice, unintentionally, the tranquillity of their cotemporaries, to an over-ardent zeal for the good of posterity. Notwithstanding, however, these evils, which every friend to humanity must lament, I would willingly believe, that the final effects resulting from this spirit of reformation, cannot fail to be favourable to human happiness; and there are some peculiarities in the present condition of mankind, which appear to me to justify more sanguine hopes upon the subject, than it would have been reasonable for a philosopher to indulge at any former period. An attention to these peculiarities is absolutely necessary, to enable us to form a competent judgment on the question to which the foregoing observations relate; and it leads to the illustration of a doctrine to which I have frequently referred in this work; the gradual improvement in the condition of the species, which may be expected from the progress of reason and the diffusion of knowledge.

Among the many circumstances favourable to human happiness in the present state of the world the most important, perhaps, is, that the same events which have contributed to loosen the foundations of the ancient fabrics of despotism, have made it practicable, in a much greater degree than it ever was formerly, to reduce the principles of legislation to a science, and to anticipate the probable course of popular opinions. It is easy for the statesman to form to himself a distinct and steady idea of the ulti-

mate objects at which a wise legislator ought to aim and to foresee that modification of the social order to which human affairs have, of themselves, a tendency to approach; and, therefore, his practical sagacity and address are limited to the care of accomplishing the important ends which he has in view, as effectually and as rapidly as is consistent with the quiet of individuals, and with the rights arising from actual establishments.

In order to lay a solid foundation for the science of politics, the first step ought to be, to ascertain that form of society which is perfectly agreeable to nature and to justice; and what are the principles of legislation necessary for maintaining it. Nor is the inquiry so difficult as might at first be appehended; for it might be easily be shewn, that the greater part of the political disorders which exist among mankind, do not arise from a want of foresight in politicians, which has rendered their laws too general but from their having trusted too little to the operation of those simple institutions which nature and justice recommend; and, of consequence, that as society advances to its perfection, the number of laws may be expected to diminish, instead of increasing, and the science of legislation to be gradually simplified.

The œconomical system which, about thirty years ago, employed the speculations of some ingenious men in France, seems to me to have been the first attempt to ascertain this ideal perfection of the social order; and the light which, since that period, has been thrown on the subject, in different parts of Europe, is a proof of what the human mind is able to accomplish in such enquiries, when it has once received a proper direction. To all the various tenets of these writers, I would, by no means be understood to subscribe; nor do I consider their system as so perfect in every different part, as some of its more sanguine admirers have represented it to be,

A few of the moſt important principles of political œconomy, they have undoubtedly eſtabliſhed with demonſtrative evidence; but what the world is chiefly indebted to them for, is the commencement which they have given to a new branch of ſcience, and the plan of inveſtigation which they have exhibited to their ſucceſſors. A ſhort account of what I conceive to the ſcope of their ſpeculations, will juſtify theſe remarks, and will comprehend every thing which I have to offer at preſent, in anſwer to the queſtion by which they were ſuggeſted. Such an account I attempt with the greater ſatisfaction, that the leading views of the earlieſt and moſt enlightened patrons of the œconomical ſyſtem have, in my opinion, been not more miſrepreſented by its opponents, than miſapprehended by ſome who have adopted its concluſions.*

In the firſt place, then, I think it of importance to remark, that the object of the œconomical ſyſtem ought, by no means to be confounded (as I believe it commonly is in this country) with that of the Utopian plans of government, which have, at different times, been offered to the world; and which have ſo often excited the juſt ridicule of the more ſober and reaſonable inquirers. Of theſe plans, by far the greater number proceed on the ſuppoſition, that the ſocial order is entirely the effect of human art; and that wherever this order is imperfect, the evil may be traced to ſome want of foreſight on the part of the legiſlator; or to ſome inattention of the magiſtrate to the complicated ſtructure of that machine of which he regulates the movements. The projects of reform, therefore, which ſuch plans involve, are, in general, well entitled to all the ridicule and contempt they have met with; inaſmuch as they imply an arogant and preſumptuous belief in their authors, of the ſuperiority of their

* See Note [N.]

own political ſagacity, to the accumulated wiſdom of former ages. The caſe is very different with the œconomical ſyſtem; of which the leading views (ſo far as I am able to judge) proceed on the two following ſuppoſitions: Firſt, that the ſocial order is, in the moſt eſſential reſpects, the reſult of the wiſdom of nature, and not of human contrivance; and, therefore, that the proper buſineſs of the politician, is not to divide his attention among all the different parts of a machine, which is by far too complicated for his comprehenſion; but, by protecting the rights of individuals, and by allowing to each, as complete a liberty as is compatible with the perfect ſecurity of the rights of his fellow-citizens; to remove every obſtacle which the prejudices and vices of men have oppoſed to the eſtabliſhment of that order which ſociety has a tendency to aſſume. Secondly; that, in proportion to the progreſs of the diffuſion of knowledge, thoſe prejudices, on a ſkilful management of which all the old ſyſtems of policy proceeded, muſt gradually diſappear; and, conſequently, that (whatever may be his predilection for ancient uſages) the inevitable courſe of events impoſes on the politician the neceſſity of forming his meaſures on more ſolid and permanent principles, than thoſe by which the world has hitherto been governed. Both of theſe ſuppoſitions are of modern origin. The former, ſo far as I know, was firſt ſtated and illuſtrated by the French Œconomiſts. The latter has been obviouſly ſuggeſted by that rapid improvement which has actually taken place in every country of Europe, where the preſs has enjoyed a moderate degree of liberty.

It may be farther remarked, with reſpect to the greater parts of the plans propoſed by Utopian projectors, that they proceed on the ſuppoſition of a miraculous reformation in the moral character of a people, to be effected by ſome new ſyſtem of education. All ſuch plans (as Mr. Hume has juſtly ob-

ſerved) may be ſafely abandoned as impracticable and viſionary. But this objection does not apply to the œconomical ſyſtem; the chief expedient of which, for promoting moral improvement, is not that education which depends on the attention and care of our inſtructors; but an education which neceſſarily reſults from the political order of ſociety. "How ineffectual," ſaid the Roman poet, "are the "wiſeſt laws, if they be not ſupported by good "morals!" How ineffectual (ſay the Œconomiſts) are all our efforts to preſerve the morals of a people, if the laws which regulate the political order, doom the one half of mankind to indigence, to fraud, to ſervility, to ignorance, to ſuperſtition; and the other half to be the ſlaves of all the follies and vices which reſult from the inſolence of rank, and the ſelfiſhneſs of opulence? Suppoſe, for a moment, that the inordinate accumulation of wealth in the hands of individuals, which we every where meet with in modern Europe, were gradually diminiſhed by aboliſhing the law of entails, and by eſtabliſhing a perfect freedom of commerce and of induſtry; it is almoſt ſelf-evident, that this ſimple alteration in the order of ſociety; an alteration which has been often demonſtrated to be the moſt effectual and the moſt infallible meaſure for promoting the wealth and population of a country; would contribute, more than all the labours of moraliſts, to ſecure the virtue and the happineſs of all the claſſes of mankind. It is worthy too of remark, that ſuch a plan of reformation does not require, for its accompliſhment, any new and complicated inſtitutions; and therefore does not proceed upon any exaggerated conception of the efficacy of human policy. On the contrary, it requires only (like moſt of the other expedients propoſed by this ſyſtem) the gradual abolition of thoſe arbitrary and unjuſt arrangements, by which the order of nature is diſturbed.

Another miſtaken idea concerning the œconomical ſyſtem is, that it is founded entirely upon theory, and unſupported by facts. That this may be the caſe with reſpect to ſome of its doctrines, I ſhall not diſpute: but, in general, it may be ſafely affirmed, that they reſt on a broader baſis of facts, than any other political ſpeculations which have been yet offered to the world; for they are founded, not on a few examples collected from the ſmall number of governments of which we poſſeſs an accurate knowledge; but on thoſe laws of human nature, and thoſe maxims of common ſenſe, which are daily verified in the intercourſe of private life.

Of thoſe who have ſpeculated on the ſubject of legiſlation, by far the greater part ſeem to have conſidered it as a ſcience *ſui generis*; the firſt principles of which can be obtained in no other way, than by an examination of the conduct of mankind in their political capacity. The Œconomiſts, on the contrary, have ſearched for the cauſes of national proſperity, and national improvement, in thoſe arrangments, which our daily obſervations ſhew to be favourable to the proſperity and to the improvement of individuals. The former reſemble thoſe philoſophers of antiquity, who affirming, that the phenomena of the heavens are regulated by laws peculiar to themſelves, diſcouraged every attempt to inveſtigate their phyſical cauſes, which was founded upon facts collected from common experience. The latter have aimed at accompliſhing a reformation in politics, ſimilar to what Kepler and Newton accompliſhed in aſtronomy; and, by ſubjecting to that common ſenſe, which guides mankind in their private concerns, thoſe queſtions, of which none were ſuppoſed to be competent judges, but men initiated in the myſteries of government, have given a beginning to a ſcience, which has already extended very widely our political proſpects; and which, in its progreſs, may probably afford an illuſtration, not

leſs ſtriking than that which phyſical aſtronomy exhibits, of the ſimplicity of thoſe laws by which the univerſe is governed.

When a political writer, in order to expoſe the folly of thoſe commercial regulations which aim at the encouragement of domeſtic induſtry by reſtraints on importation, appeals to the maxims upon which men act in private life; when he remark, that the taylor does not attempt to make his own ſhoes but buys them of the ſhoemaker; that the ſhoemaker does not attempt to make his own clothes, but employs a taylor; and when he concludes, that what is prudence in the conduct of every private family, can ſcarcely be folly in that of a great kingdom;* he may undoubtedly be ſaid, in one ſenſe, to indulge in theory; as he calls in queſtion the utility of inſtitutions which appear, from the fact to be not incompatible with a certain degree of political proſperity. But, in another ſenſe, and in a much more philoſophical one, he may be ſaid to oppoſe to the falſe theories of ſtateſmen, the common ſenſe of mankind; and thoſe maxims of expediency, of which every man may verify the truth by his own daily obſervation.

There is yet another miſtake (of ſtill greater conſequence, perhaps, than any of thoſe I have mentioned) which has miſled moſt of the opponents, and even ſome of the friends, of the œconomical ſyſtem; an idea that it was meant to exhibit a political order, which is really attainable in the preſent ſtate of Europe. So different from this were the views of its moſt enlightened advocate, that they have uniformly reſted their only hopes of its gradual eſtabliſhment in the world, on that influence in the conduct of human affairs, which philoſophy may be expected gradually to acquire, in conſequence of the

* See Mr. SMITH's profound and original "Inquiry into the Nature and Cauſes of the Wealth of Nations."

progreſs of reaſon and civilization. To ſuppoſe that a period is ever to arrive, when it ſhall be realiſed in its full extent, would be the height of enthuſiaſm and abſurdity; but it is ſurely neither enthuſiaſm nor abſurdity to affirm, that governments are more or leſs perfect, in proportion to the greater or ſmaller number of individuals to whom they afford the means of cultivating their intellectual and moral powers, and whom they admit to live together on a liberal footing of equality; or even to expect, that, in proportion to the progreſs of reaſon, governments will actually approach nearer and nearer to this deſcription.

To delineate that ſtate of political ſociety to which governments may be expected to approach nearer and nearer, as the triumphs of philoſophy extend, was, I apprehend, the leading object of the earlieſt and moſt enlightened patrons of the œconomical ſyſtem. It is a ſtate of ſociety, which they by no means intended to recommend to particular communities, as the moſt eligible they could adopt at preſent; but as an ideal order of things, to which they have a tendency of themſelves to approach, and to which it ought to be the aim of the legiſlator to facilitate their progreſs. In the language of mathematicians, it forms a *limit* to the progreſſive improvement of the political order; and, in the mean time, it exhibits a ſtandard of compariſon, by which the excellence of particular inſtitutions may be eſtimated.

According to the view which has now been given of the œconomical ſyſtem, its principles appear highly favourable to the tranquility of ſociety; inaſmuch as, by inſpiring us with a confidence in the triumph which truth and liberty muſt infallibly gain in the end over error and injuſtice, it has a tendency to diſcourage every plan of innovation, which is to be ſupported by violence and blood-ſhed. And, accordingly, ſuch has always been the language

of thoſe who were beſt acquainted with the views of its authors. "If we attack oppreſſors, before "we have taught the oppreſſed," (ſays one of the ableſt of its preſent ſupporters,*) "we ſhall riſk the "loſs of liberty, and rouſe them to oppoſe the pro- "greſs of reaſon. Hiſtory affords proofs of this "truth. How often, in ſpite of the efforts of the "friends of freedom, has the event of a ſingle battle "reduced nations to the ſlavery of ages!"

"And what is the kind of liberty enjoyed by "thoſe nations, which have recovered it by force "of arms, and not by the influence of philoſophy? "Have not moſt of them confounded the forms of "republicaniſm with the enjoyment of right, and "the deſpotiſm of numbers with liberty? How "many laws, contrary to the rights of nature, have "diſhonoured the code of every people which has "recovered its reaſon was ſtill in its infancy!"

"Why not profit by this fatal experience, and "wiſely wait the progreſs of knowledge, in order "to obtain freedom more effectual, more ſubſtan- "tial, and more peaceful? Why purſue it by blood "and inevitable confuſion, and truſt that to chance, "which time muſt certainly, and withoutblood- "ſhed, beſtow? A fortunate ſtruggle may, indeed, "relieve us of many grievances under which we la- "bour at preſent, but if we wiſh to ſecure the per- "fection, and the permanence of freedom, we muſt "patiently wait the period when men, emancipated "from their prejudices, and guided by philoſophy, "ſhall be rendered worthy of liberty, by compre- "hending its claims."

Nor is it the employment of violent and ſanguinary means alone, in order to accompliſh political innovations, that this enlightened and humane philoſophy has a tendency to diſcourage. By extending our views to the whole plan of civil ſociety, and

* M. Condorcet.

ſhewing us the mutual relations and dependencies of its moſt diſtant parts, it cannot fail to check that indiſcriminate zeal againſt eſtabliſhed inſtitutions, which ariſes from partial views of the ſocial ſyſtem; as well as to produce a certain degree of ſcepticiſm with reſpect to every change, the ſucceſs of which is not inſured by the prevailing ideas and manners of the age. Sanguine and inconſiderate projects of reformation are frequently the offspring of clear and argumentative and ſyſtematical underſtandings; but rarely of comprehenſive minds. For checking them, indeed, nothing is ſo effectual, as a general ſurvey of the complicated ſtructure of ſociety.—Even although ſuch a ſurvey ſhould be ſuperficial, provided it be conducted on an extenſive ſcale, it is more uſeful, at leaſt for this purpoſe, than the moſt minute and ſucceſsful inquiries, which are circumſcribed within a narrow circle. If it ſhould teach us nothing elſe, it will at leaſt ſatisfy us of the extreme difficulty of predicting, with confidence, the remote effects of new arrangements; and that the perfection of political wiſdom conſiſts, not in incumbering the machine of government with new contrivances to obviate every partial inconvenience, but in removing gradually and imperceptibly, the obſtacles which diſturb the order of nature, and (as Mr. Addiſon ſomewhere expreſſes it) "in grafting "upon her inſtitutions."

When the œconomical ſyſtem, indeed, is firſt preſented to the mind, and when we compare the perfection which it exhibits, with the actual ſtate of human affairs, it is by no means unnatural, that it ſhould ſuggeſt plans of reformation too violent and hidden to be practicable. A more complete acquaintance, however, with the ſubject, will effectually cure theſe firſt impreſſions, by pointing out to us the miſchiefs to be apprehended from an injudicious combination of theoretical perfection with our eſtabliſhed laws, prejudices, and manners. As

the various unnatural modes and habits of living, to which the bodily conſtitution is gradually reconciled by a courſe of luxurious indulgences, have ſuch a tendency to correct each other's effects, as to render a partial return to a more ſimple regimen, a dangerous, and, ſometimes, a fatal experiment; ſo it is poſſible, that many of our imperfect political inſtitutions may be ſo accommodated to each other, that a partial execution of the moſt plauſible and equitable plans of reformation, might tend, in the firſt inſtance, to fruſtrate thoſe important purpoſes which we are anxious to promote. Is it not poſſible, for example, that the influence which is founded on a reſpect for hereditary rank, may have its uſe in counteracting that ariſtocracy which ariſes from inequality of wealth; and which ſo many laws and prejudices conſpire to ſupport? That the former ſpecies of influence is rapidly declining of itſelf, in conſequence of the progreſs which commerce and philoſophy have already made, is ſufficiently obvious; and, I think, it may reaſonably be doubted, whether a well-wiſher to mankind would be diſpoſed to accelerate its deſtruction, till the true principles of political œconomy are completely underſtood and acknowledged by the world.

Various other examples might be produced, to illuſtrate the dangers to be apprehended from the partial influence of general principles in politics; or, in other words, from an excluſive attention to particular circumſtances in the political order, without comprehenſive views of the ſubject. It is only upon a limited mind, therefore, that ſuch ſtudies will produce a paſſion for violent innovations. In more comprehenſive and enlightened underſtandings, their natural effect is caution and diffidence, with reſpect to the iſſue of every experiment, of which we do not perceive diſtinctly all the remote conſequences. Nor is this caution at all inconſiſtent with a firm confidence

in the certainty of that triumph, which truth and liberty muſt infallibly gain in the end over error and injuſtice. On the contrary, it is a natural and obvious conſequence of ſuch a conviction; inaſmuch as the ſame arguments on which this conviction is founded, prove to us, that the progreſs of mankind towards the perfection of the ſocial order, muſt neceſſarily, in every caſe, be gradual; and that it muſt be diverſified in the courſe it takes, according to the ſituations and characters of nations. To direct, and, as far as poſſible to accelerate, this progreſs, ought to be the great aim of the enlightened ſtateſman, and, indeed, of every man who wiſhes well to his ſpecies; but it is neceſſary for him always to remember, that conſiderable alterations in the eſtabliſhed order, are very ſeldom to be effected immediately and directly by political regulations; and that they are, in all caſes, moſt ſucceſsful and moſt permanent, when they are accompliſhed gradually by natural cauſes, freed from thoſe reſtraints which had formerly checked their operation. In the governments, indeed, of modern Europe, it is much more neceſſary to aboliſh old inſtitutions, than to introduce new ones; and if this reformation be kept ſteadily in view, and not puſhed farther at any time than circumſtances render expedient, or the ideas of times recommend the eſſential principles of a more perfect order of things, will gradually eſtabliſh themſelves, without any convulſion.

According to this view of the ſubject, the ſpeculation concerning the perfect order of ſociety, is to be regarded merely as a deſcription of the ultimate objects at which the ſtateſman ought to aim. The tranquility of his adminiſtration, and the immediate ſucceſs of his meaſures, depend on his good ſenſe, and his practical ſkill. And his theoretical principles only enable him to direct his meaſures ſteadily and wiſely to promote the improvement and happineſs of mankind; and prevent him from being ev-

er led aſtray from theſe important objects, by more limited view of temporary expedience.

Before taking leave of this ſubject it may be proper for me to attempt obviating, a little more fully than I have done, an objection which has been frequently drawn, from the paſt experience of mankind, againſt that ſuppoſition of their progreſſive improvement, on which all the foregoing reaſonings proceed. How mournful are the viciſſitudes which hiſtory exhibits to us, in the courſe of human affairs; and how little foundation do they afford to our ſanguine proſpects concerning futurity! If in thoſe parts of the earth which were formerly inhabited by barbarians, we now ſee the moſt ſplendid exertions of genius, and the happieſt forms of civil policy, we behold others which, in ancient times, were the ſeats of ſcience, of civilization, and of liberty, at preſent immerſed in ſuperſtition, and laid waſte by deſpotiſm. After a ſhort period of civil, of military, and of literary glory, the proſpect has changed at once: the career of degeneracy has begun and has proceeded till it could advance no farther; or ſome unforſeen calamity has occurred, which has obliterated, for a time, all memory of former improvements, and has condemned mankind to re-trace ſtep by ſtep, the ſame path by which their forefathers had riſen to greatneſs. In a word; on ſuch a retroſpective view of human affairs, man appears to be the mere ſport of fortune and of accident; or rather, he appears to be doomed, by the condition of his nature to run alternately the career of improvement and of degeneracy; and to realiſe the beautiful but melancholy fable of Siſyphus, by an eternal renovation of hope and of diſappointment.

In oppoſition to theſe diſcouraging views of the ſtate and proſpects of man; it may be remarked in general, that in the courſe of theſe latter ages, a variety of events have happened in the hiſtory of the

world, which render the condition of the human race essentially different from what it ever was among the nations of antiquity; and which, of consequence, render all our reasonings concerning their future fortunes, in so far as they are founded merely on their past experience unphilosophical and inconclusive. The alterations which have taken place in the art of war, in consequence of the invention of fire-arms, and of the modern science of fortification, have given to civilized nations a security against the irruptions of barbarians, which they never before possessed. The more extended, and the more constant intercouse, which the improvements in commerce and in the art of navigation have opened, among the distant quarters of the globe, cannot fail to operate in undermining local and national prejudices, and in imparting to the whole species the intellectual acquisitions of each particular community. The accumulated experience of ages has already taught the rulers of mankind, that the most fruitful and the most permanent sources of revenue, are to be derived, not from conquered and tributary provinces, but from the internal prosperity and wealth of their own subjects; and the same experience now begins to teach nations, that the increase of their own wealth, so far from depending on the poverty and depression of their neighbours, is intimately connected with their industry and opulence; and, consequently, that those commercial jealousies, which have hitherto been so fertile a source of animosity among different states, are founded entirely on ignorance and prejudice. Among all the circumstances, however which distinguish the present state of mankind from that of ancient nations, the invention of printing is by far the most important; and, indeed, this single event, independent of every other, is sufficient to change the whole course of human affairs.

The influence which printing is likely to have on the future hiſtory of the world, has not, I think, been hitherto examined, by philoſophers, with the attention which the importance of the ſubject deſerves. One reaſon for this may, probably, have been, that, as the invention has never been made but once, it has been conſidered rather as the effect of a fortunate accident, than as the reſult of thoſe general cauſes on which the progreſs of ſociety ſeems to depend. But it may be reaſonably queſtioned, how far this idea be juſt. For, although it ſhould be allowed, that the invention of printing was accidental, with reſpect to the individual who made it, it may with truth, be conſidered as the natural reſult of a ſtate of the world, when a number of great and contiguous nations are all engaged in the ſtudy of literature, in the purſuit of ſcience, and in the practice of arts: inſomuch, that I do not think it extravagant to affirm, that if this invention had not been made by the particular perſon to whom it is aſcribed, the ſame art, or ſome analogous art, anſwering a ſimilar purpoſe, would have infallibly been invented by ſome other perſon, and at no very diſtant period. The art of printing, therefore, is entitled to be conſidered as a ſtep in the natural hiſtory of man, no leſs than the art of writing; and they who are ſceptical about the future progreſs of the race, merely in conſequence of its paſt hiſtory, reaſon as unphiloſophically, as the member of a ſavage tribe, who, deriving his own acquaintance with former times from oral tradition only, ſhould affect to call in queſtion the efficacy of written records, in accellerating the progreſs of knowledge and of civilization.

What will be the particular effects of this invention, (which has been, hitherto, much checked in its operation, by the reſtraints on the liberty of the preſs in the greater part of Europe,) it is beyond the reach of human ſagacity to conjecture: but, in

general, we may venture to predict with confidence, that, in every country, it will gradually operate to widen the circle of ſcience and civilization; to diſtribute more equally, among all the members of the community, the advantages of the political union; and to enlarge the baſis of equitable governments, by increaſing the number of thoſe who underſtand their value, and are intereſted to defend them. The ſcience of legiſlation, too, with all the other branches of knowledge which are connected with human improvement, may be expected to advance with rapidity; and, in proportion as the opinions and inſtitutions of men approach to truth and to juſtice, they will be ſecured againſt thoſe revolutions to which human affairs have always been hitherto ſubject. *Opinionum enim commenta delet dies, naturæ judicia confirmat.*

The revolutions incident to the democratical ſtates of antiquity furniſh no ſolid objection to the foregoing obſervations: for none of theſe ſtates enjoyed the advantages which modern times derive from the diffuſion, and from the rapid circulation of knowledge. In theſe ſtates, moſt of the revolutions which happened, aroſe from the ſtruggles of demagogues, who employed the paſſions of the multitude, in ſubſerviency to their own intereſt and ambition; and to all of them, the ingenious and ſtriking remark of Hobbes will be found applicable; that "Democracy is nothing but an ariſtocracy of "orators, interrupted ſometimes by the temporary "monarchy of a ſingle orator." While this continued to be the caſe, democratical conſtitutions were, undoubtedly, the moſt unfavourable of any to the tranquillity of mankind; and the only way to preſerve the order of ſociety was, by ſkilfully balancing againſt each other, the prejudices, and the ſeparate intereſt of different orders of citizens. That ſuch balances, however, will every day become leſs neceſſary for checking the turbulence of the

democratical ſpirit in free governments, appears probably from this; that among the various advantages to be expected from the liberty of the preſs, one of the greateſt is, the effect which it muſt neceſſarily have in diminiſhing the influence of popular eloquence; both by curing men of thoſe prejudices upon which it operates, and by ſubjecting it to the irreſiſtible control of enlightened opinions. In the republican ſtates of antiquity, the eloquence of demogogues was indeed a dangerous engine of faction while it aſpired to govern nations by its unlimited ſway in directing popular councils. But, now, when the effuſions of the orator are, by means of the preſs, ſubjected to the immediate tribunal of an inquiſitive age, the eloquence of legiſlative aſſemblies is forced to borrow its tone from the ſpirit of the times; and if it retains its aſcendant in human affairs, it can only be, by lending its aid to the prevailing cauſe, and to the permanent intereſts of truth and of freedom.

Of the progreſs which may yet be made in the different branches of moral and political philoſophy, we may form ſome idea, from what has already happened in phyſics, ſince the time that Lord Bacon united in one uſeful direction, the labours of thoſe who cultivate that ſcience. At the period when he wrote, phyſics was certainly in a more hopeleſs ſtate, than that of moral and political philoſophy in the preſent age. A perpetual ſucceſſion of chimerical theories had, till then, amuſed the world; and the prevailing opinion was, that the caſe would continue to be the ſame forever. Why then ſhould we deſpair of the competency of the human faculties to eſtabliſh ſolid and permanent ſyſtems, upon other ſubjects which are of ſtill more ſerious importance? Phyſics, it is true, is free from many difficulties which obſtruct our progreſs in moral and political inquiries; but, perhaps, this advantage may be more than counterbalanced by the tendancy they

have to engage a more univerſal, and a more earneſt attention, in conſequence of their coming home more imediately to our "buſineſs and our boſoms." When theſe ſciences too begin to be proſecuted on a regular and ſyſtematical plan, their improvement will go on with an accellerated velocity; not only as the number of ſpeculative minds will be every day increaſed by the diffuſion of knowledge, but as an acquaintance with the juſt rules of inquiry will more and more place important diſcoveries within the reach of ordinary underſtandings. "Such "rules," ſays Lord Bacon, "do, in ſome ſort, equal "men's wits, and leave no great advantage or pre "eminence to the perfect and excellent motions of "the ſpirit. To draw a ſtraight line, or to deſcribe "a circle, by aim of hand only, there muſt be "great difference between an unſteady and unprac "tiſed hand, and a ſteady and practiſed; but, to do "it by rule or compaſſes, it is much alike."

Nor muſt we omit to mention the value which the art of printing communicates to the moſt limited exertions of literary induſtry, by treaſuring them up as materials for the future examinations of more enlightened inquiries. In this reſpect the press beſtows upon the ſciences, an advantage ſomewhat analogous to that which the mechanical arts derive from the diviſion of labour. As in theſe arts, the exertions of an uninformed multitude, are united by the comprehenſive ſkill of the artiſt, in the accomplishment of effects aſtoniſhing by their magnitude and by the complicated ingenuity they diſplay; ſo in the ſciences, the obſervations and conjectures of obſcure individuals, on thoſe ſubjects which are level to their capacities, and which fall under their own immediate notice, accumulate for a courſe of years; till at laſt ſome philoſopher ariſes, who combines theſe ſcattered materials, and exhibits, in his ſyſtem, not merely the force of a ſingle mind but the intellectual power of the age in which he lives.

It is upon these last considerations, much more than on the efforts of original genius, that I would rest my hopes of the progress of the race. What genius alone could accomplish in science, the world has already seen: and I am ready to subscribe to the opinion of those who think, that the splendor of its past exertions is not likely to be obscured by the fame of future philosophers. But the experiment yet remains to be tried, what lights may be thrown on the most important of all subjects, by the free discussions of inquisitive nations, unfettered by prejudice, and stimulated in their inquiries, by every motive that can awaken whatever is either generous or selfish in human nature. How trifling are the effects which the bodily strength of an individual is able to produce, (however great may be his natural endowments) when compared with those which have been accomplished by the conspiring force of an ordinary multitude? It was not the single arm of a Theseus, or a Hercules, but the hands of such men as ourselves, that, in ancient Egypt, raised those monuments of architecture, which remain from age to age to attest the wonders of combined and of persevering industry; and, while they humble the importance of the individual, to exalt the dignity, and to animate the labours, of the species.

These views with respect to the probable improvement of the world, are so conducive to the comfort of those who entertain them, that even, although they were founded in delusion, a wise man would be disposed to cherish them. What should have induced some respectable writer to controvert them, with so great an asperity of expression, it is not easy to conjecture; for, whatever may be thought of their truth, their practical tendency is surely favorable to human happiness; nor can that temper of mind, which disposes a man to give them a welcome reception, be candidly suspected of designs

hoſtile to the intereſts of humanity. One thing is certain, that the greateſt of all obſtacles to the improvement of the world, is that prevailing belief of its improbability, which damps the exertions of ſo many individuals; and that, in proportion as the contrary opinion becomes general, it realiſes the event which it leads us to anticipate. Surely if any thing can have a tendency to call forth in the public ſervice the exertions of individuals, it muſt be an idea of the magnitude of that work in which they are conſpiring, and a belief of the permanance of thoſe benefits which they confer on mankind, by every attempt to inform and enlighten them. As in ancient Rome, therefore, it was regarded as the mark of a good citizen, never to deſpair of the fortunes of the republic;—ſo the good citizen of the world, whatever may be the political aſpect of his own times, will never deſpair of the fortunes of the human race; but will act upon the conviction, that prejudice, ſlavery, and corruption, muſt gradually give way to truth, liberty, and virtue; and that in the moral world, as well as in the material, the farther our obſervations extend, and the longer they are continued, the more we ſhall perceive of order and of benevolent deſign in the univerſe.

Nor is this change in the condition of man, in conſequence of the progreſs of reaſon, by any means contrary to the general analogy of his natural hiſtory. In the infancy of the individual, his exiſtence is preſerved by inſtincts, which diſappear afterwards, when they are no longer neceſſary. In the ſavage ſtate of our ſpecies, there are inſtincts which ſeem to form a part of the human conſtitution; and of which no traces remain in thoſe periods of ſociety, in which their uſe is ſuperſeded by a more enlarged experience. Why then ſhould we deny the probability of ſomething ſimilar to this in the hiſtory of man, conſidered in his political capacity? I have already had occaſion to obſerve, that

the governments which the world has hitherto ſeen have ſeldom or never taken their riſe from deep-laid ſchemes of human policy. In every ſtate of ſociety which has yet exiſted, the multitude has, in general, acted from the immediate impulſe of paſſion, or from the preſſure of their wants and neceſſities; and, therefore, what we commonly call the political order, is, at leaſt in a great meaſure, the reſult of the paſſions and wants of man, combined with the circumſtances of his ſituation; or, in other words, it is chiefly the reſult of the wiſdom of nature. So beautifully, indeed, do theſe paſſions and circumſtances act in ſubſerviency to her deſigns, and ſo invariably have they been found, in the hiſtory of paſt ages, to conduct men in time to certain beneficial arrangements, that we can hardly bring ourſelves to believe, that the end was not foreſeen by thoſe who were engaged in the purſuit. Even in thoſe rude periods of ſociety, when, like the lower animals, he follows blindly his inſtinctive principles of action, he is led by an inviſible hand, and contributes his ſhare to the execution of a plan, of the nature and advantages of which he has no conception. The operations of the bee, when it begins for the firſt time, to form its cell, conveys to us a ſtriking image of the efforts of unenlightened man, in conducting the operations of an infant government.

A great variety of prejudices might be mentioned, which are found to prevail univerſally among our ſpecies in certain periods of ſociety, and which ſeem to be eſſentially neceſſary for maintaining its order, in ages when men are unable to comprehend the purpoſes for which governments are inſtituted. As ſociety advances, theſe prejudices gradually loſe their influence on the higher claſſes, and would probably ſoon diſappear altogether, if it were not found expedient to prolong their exiſtence, as a ſource of authority over the multitude. In an age however, of univerſal and of unreſtrained diſcuſ-

ſion, it is impoſſible that they can long maintain their empire; nor ought we to regret their decline if the important ends to which they have been ſubſervient, in the paſt experience of mankind, are found to be accompliſhed by the growing light of philoſophy. On this ſuppoſition a hiſtory of human prejudices, in ſo far as they have ſupplied the place of more enlarged political views, may, at ſome future period, furniſh to the philoſopher, a ſubject of ſpeculation, no leſs pleaſing and inſtructive, than that beneficent wiſdom of nature, which guides the operations of the lower animals; and which even in our own ſpecies, takes upon itſelf the care of the individual in the infancy of human reaſon.

I have only to obſerve farther, that, in proportion as theſe proſpects, with reſpect to the progreſs of reaſon, the diffuſion of knowledge, and the conſequent improvement of mankind, ſhall be realized; the political hiſtory of the world will be regulated by ſteady and uniform cauſes, and the philoſopher will be enabled to form probable conjectures, with reſpect to the future courſe of human affairs.

It is juſtly remarked by Mr. Hume, that "what "depends on a few perſons is, in a great meaſure, "to be aſcribed to chance, or ſecret and unknown "cauſes: what ariſes from a great number, may of- "ten be accounted for by determinate and known "cauſes." "To judge by this rule," (he continues) "the domeſtic and the gradual revolutions "of a ſtate muſt be a more proper object of reaſon- "ing and obſervation, than the foreign and the vio- "lent which are commonly produced by ſingle per- "ſons, and are more influenced by whim, folly, or "caprice, than by general paſſions and intereſts. "The depreſſions of the Lords and riſe of the Com- "mons, in England after the ſtatutes of alienation, "and the increaſe of trade and induſtry, are more "eaſily accounted for by general principles, than

" the depreſſion of the Spaniſh, and riſe of the " French monarchy, after the death of Charles the " Fifth. Had Harry the Fourth, Cardinal Rich- " lieu, and Louis the Fourteenth, been Spaniards; " and Phillip the Second, Third, and Fourth, and " Charles the Second, been Frenchmen; the hiſto- " ry of theſe nations had been entirely reverſed."

From theſe principles, it would ſeem to be a neceſſary conſequence, that, in proportion as the circumſtances, ſhall operate which I have been endeavouring to illuſtrate, the whole ſyſtem of human affairs including both the domeſtic order of ſociety in particular ſtates, and the relations which exiſt among different communities, in conſequence of war and negociation, will be ſubjected to the influence of cauſes which are " known and determinate." Thoſe domeſtic affairs, which according to Mr. Hume, are already proper ſubjects of reaſoning and obſervation, in conſequence of their dependence on general intereſts and paſſions, will become ſo, more and more daily, as prejudices ſhall decline and knowledge ſhall be diffuſed among the lower orders: while the relations among different ſtates, which have depended hitherto, in a great meaſure, on the " whim, " folly and caprice," of ſingle perſons, will be gradually more and more regulated by the general intereſts of the individuals who compoſe them, and by the popular opinions of more enlightened times. Already, during the very ſhort interval which has elapſed ſince the publication of Mr. Hume's writtings, an aſtoniſhing change has taken place in Europe. The myſteries of courts have been laid open; the influence of ſecret negociation on the relative ſituation of ſtates has declined; and the ſtudies of thoſe men whoſe public ſpirit or ambition devotes them to the ſervice of their country, have been diverted from the intrigues of cabinets, and the details of the diplomatic code, to the liberal and manly purſuits of political philoſophy.

CHAPTER FIFTH.

OF THE ASSOCIATION OF IDEAS.

THE ſubject which I am now to enter, naturally divides itſelf into two parts. The Firſt relates to the influence of Aſſociation, in regulating the ſucceſſion of our thoughts; the Second, to its influence on the intellectual powers, and on the moral character, by the more intimate and indiſſoluble combinations which it leads us to form in infancy and in early youth. The two inquiries, indeed, run into each other; but it will contribute much to the order of our ſpeculations, to keep the foregoing arrangement in view.

PART FIRST.

OF THE INFLUENCE OF ASSOCIATION IN REGULATING THE SUCCESSION OF OUR THOUGHTS.

SECTION I.

General Obſervations on this Part of our Conſtitution, and on the Language of Philoſophers with reſpect to it.

THAT one thought is often ſuggeſted to the mind by another; and that the ſight of an external object often recals former occurrences, and revives former feelings, are facts which are perfectly familiar, even to thoſe who are the leaſt diſpoſed to ſpeculate concerning the principles of their nature. In paſſing along a road which we have formerly travelled in the company of a friend, the particulars of the converſation in which we were then engaged,

are frequently ſuggeſted to us by the objects we meet with. In ſuch a ſcene, we recollect that a particular ſubject was ſtarted; and, in paſſing the different houſes, and plantations, and rivers, the arguments we were diſcuſſing when we laſt ſaw them recur ſpontaneouſly to the memory. The connexion which is formed in the mind between the words of a language and the ideas they denote; the connexion which is formed between the different words of a diſcourſe we have committed to memory; the connection between the different notes of a piece of muſic in the mind of the muſician, are all obvious inſtances of the ſame general law of our nature.

The influence of perceptible objects in reviving former thoughts and former feelings, is more particularly remarkable. After time has, in ſome degree reconciled us to the death of a friend, how wonderfully are we affected the firſt time we enter the houſe where he lived! Every thing we ſee; the apartment where he ſtudied; the chair upon which he ſat, recal to us the happineſs we have enjoyed together; and we ſhould feel it a ſort of violation of that reſpect we owe to his memory, to engage in any light or indifferent diſcourſe when ſuch objects are before us. In the caſe, too, of thoſe remarkable ſcenes which intereſt the curioſity, from the memorable perſons or tranſactions which we have been accuſtomed to connect with them in the courſe of our ſtudies, the fancy is more awakened by the actual perception of the ſcene itſelf, than by the mere conception or imagination of it. Hence the pleaſure we enjoy in viſiting claſſical ground; in beholding the retreats which inſpired the genius of our favourite authors, or the fields which have been dignified by exertions of heroic virtue. How feeble are the emotions produced by the livelieſt conceptions of modern Italy, to what the poet felt, when, amidſt the ruins of Rome.

" He drew th' inſpiring breath of ancient arts,
"——And trod the ſacred walks
" Where, at each ſtep, imagination burns!"*

The well-known effect of a particular tune on Swiſs regiments when at a diſtance from home, furniſhes a very ſtriking illuſtration of the peculiar power of a perception, or of an impreſſion on the ſenſes, to awaken aſſociated thoughts and feelings: and numberleſs facts of a ſimilar nature muſt have occurred to every perſon of moderate ſenſibility, in the courſe of his own experience.

" Whilſt we were at dinner," (ſays Captain King,) " in this miſerable hut, on the banks of the " river Awatſka; the gueſts of a people with whoſe " exiſtence we had before been ſcarce acquainted, " and at the extremity of the habitable globe; a " ſolitary, half-worn pewter ſpoon, whoſe ſhape was " familiar to us, attracted our attention; and, on " examination, we found it ſtamped on the back " with the word *London*. I cannot paſs over this " circumſtance in ſilence, out of gratitude for the " many pleaſant thoughts, the anxious hopes, and " tender remembrances, it excited in us. Thoſe " who have experienced the effects that long abſence, " and extreme diſtance from their native country, " produce on the mind, will readily conceive the " pleaſure ſuch a trifling incident can give."

The difference between the effect of a perception and an idea, in awakening aſſociated thoughts and feelings, is finely deſcribed in the introduction to the fifth book *De finibus*.

" We agreed," (ſays Cicero,) " that we ſhould " take our afternoon's walk in the academy, as at " that time of the day it was a place where there " was no reſort of company. Accordingly, at the

* " Quacunque ingredimur," (ſays Cicero, ſpeaking of Athens,) " in aliquam hiſtoriam veſtigium ponimus."

" hour appointed, we went to Piſo's. We paſſed " the time in converſing on different matters during " our ſhort walk from the double gate, till we came " to the academy, that juſtly celebrated ſpot; which " as we wiſhed, we found a perfect ſolitude." I " know not," (ſaid Piſo,) whether it be a natural " feeling, or an illuſion of the imagination founded " on habit, that we are more powerfully affected by " the ſight of thoſe places which have been much " frequented by illuſtrious men, than when we ei- " ther liſten to the recital, or read the detail, of their " great actions. At this moment, I feel ſtrongly " that emotion which I ſpeak of. I ſee before me, " the perfect form of Plato, who was wont to diſ- " pute in this very place: theſe gardens not only " recal to my memory, but preſent his very perſon " to my ſenſes. I fancy to myſelf, that here ſtood " Speuſippus; there Xenocrates, and here, on this " bench, ſat his diſciple Polemo. To me, our an- " cient ſenate-houſe ſeems peopled with the like " viſionary forms; for, often, when I enter it, the " ſhades of Scipio, of Cato, and of Lælius, and, in " particular, of my venerable grandfather, riſe to " my imagination. In ſhort, ſuch is the effect of " local ſituation, in recalling aſſociated ideas to the " mind, that it is not without reaſon, ſome philo- " ſophers have founded on this principle a ſpecies " of artificial memory."

The effect of perceptible objects, in awakening aſſociated thoughts and aſſociated feelings, ſeems to ariſe, in a great meaſure, from the permanence of the impreſſions which ſuch objects produce. Before one idea can ſuggeſt another idea, it muſt itſelf diſappear; and a train, perhaps, ſucceeds, to which the firſt bears a very ſlight relation. But, in the caſe of perception, the object remains before us; and introduces to the mind, one after another, all the various ideas and emotions with which it has any connexion.

I already obſerved, that the connexions, which exiſt among our thoughts, have been long familiarly known to the vulgar, as well as to philoſophers. It is, indeed, only of late, that we have been poſſeſſed of an appropriated phraſe to expreſs them; but that the general fact is not a recent diſcovery, may be inferred from many of the common maxims of prudence and of propriety, which have plainly been ſuggeſted by an attention to this part of our conſtitution. When we lay it down, for example, as a general rule, to avoid in converſation all expreſſions, and all topics of diſcourſe, which have any relation, however remote, to ideas of an unpleaſant nature, we plainly proceed on the ſuppoſition that there are certain connexions among our thoughts, which have an influence over the order of their ſucceſſion. It is unneceſſary to remark, how much of the comfort and good-humour of ſocial life depends on an attention to this conſideration. Such attentions are more particularly eſſential in our intercourſe with men of the world; for the commerce of ſociety has a wonderful effect, in increaſing the quickneſs and the facility with which we aſſociate all ideas which have any reference to life and manners;* and, of conſequence, it muſt render the ſenſibility alive to many circumſtances which, from the remoteneſs of their relation to the ſituation and hiſtory of the parties, would otherwiſe have produced no impreſſion.

* The ſuperiority which the man of the world poſſeſſes over the recluſe ſtudent, in his knowledge of mankind, is partly the reſult of this quickneſs and facility of aſſociation. Thoſe trifling circumſtances in converſation and behaviour, which, to the latter, convey only their moſt obvious and avowed meaning, lay open to the former, many of the trains of thought which are connected with them, and frequently give him a diſtinct view of a character, on that very ſide where it is ſuppoſed to be moſt concealed from his obſervation.

When an idea, however, is thus ſuggeſted by aſſociation, it produces a ſlighter impreſſion, or, at leaſt, it produces its impreſſion more gradually, than if it were preſented more directly and immediately to the mind. And hence, when we are under a neceſſity of communicating any diſagreeable information to another, delicacy leads us inſtead of mentioning the thing itſelf, to mention ſomething elſe from which our meaning may be underſtood. In this manner, we prepare our hearers for the unwelcome intelligence.

The diſtinction between groſs and delicate flattery, is founded upon the ſame principle. As nothing is more offenſive than flattery which is direct and pointed, praiſe is conſidered as happy and elegant, in proportion to the ſlightneſs of the aſſociations by which it is conveyed.

To this tendency which one thought has to introduce another, philoſophers have given the name of the *Aſſociation of ideas;* and, as I would not wiſh, excepting in a caſe of neceſſity, to depart from common language, or to expoſe myſelf to the charge of delivering old doctrines in a new form, I ſhall continue to make uſe of the ſame expreſſion. I am ſenſible, indeed, that the expreſſion is by no means unexceptionable; and that, if it be uſed (as it frequently has been) to comprehend thoſe laws by which the ſucceſſion of all our thoughts and of all our mental operations is regulated, the word *idea* muſt be underſtood in a ſenſe much more extenſive than it is commonly employed in. It is very juſtly remarked, by Dr. Reid, that "memory, judgment, reaſoning, paſ-"ſions, affections, and purpoſes; in a word, eve-"ry operation of the mind, excepting thoſe of "ſenſe, is excited occaſionally in the train of our "thoughts: ſo that, if we make the train of our "thoughts to be only a train of ideas, the word "*idea* muſt be underſtood to denote all theſe oper-

"ations." In continuing, therefore, to employ, upon this ſubject, that language, which has been conſecrated by the practice of our beſt philoſophical writers in England, I would not be underſtood to diſpute the advantages which might be derived from the introduction of a new phraſe, more preciſe and more applicable to the fact.

The ingenious author whom I laſt quoted, ſeems to think that the *aſſociation of ideas* has no claim to be conſidered as an original principle, or as an ultimate fact in our nature. "I believe," (ſays he,) "that the original principles of the mind, of which "we can give no account, but that ſuch is our "conſtitution, are more in number than is com-"monly thought. But we ought not to multiply "them without neceſſity. That trains of thinking, "which by frequent repreſentation have become "familiar, ſhould ſpontaneouſly offer themſelves to "our fancy, ſeems to require no other original "quality but the power of habit."

With this obſervation I cannot agree; becauſe I think it more philoſophical to reſolve the power of habit into the aſſociation of ideas, than to reſolve the aſſociation of ideas into habit.

The word *habit*, in the ſenſe in which it is commonly employed, expreſſes that facility which the mind acquires in all its exertions, both animal and intellectual, in conſequence of practice. We apply it to the dexterity of the workman; to the extemporary fluency of the orator; to the rapidity of the arithmetical accountant. That this facility is the effect of practice, we know from experience to be a fact: but it does ſeem to be an ultimate fact, nor incapable of analyſis.

In the Eſſay on Attention, I ſhewed that the effects of practice are produced partly on the body, and partly on the mind. The muſcles which we employ in mechanical operations, become ſtronger, and become more obedient to the will. This is a fact,

of which it is probable that philosophy will never be able to give any explanation.

But even in mechanical operations, the effects of practice are produced partly on the mind; and, in so far as this is the case, they are resolvable into what philosophers call, the *association of ideas*; or into that general fact, which Dr. Reid himself has stated, "that trains of thinking, which, by frequent repe-" tition, have become familiar, spontaneously offer "themselves to the mind." In the case of habits which are purely intellectual, the effects of practice resolve themselves completely into this principle: and it appears to me more precise and more satisfactory, to state the principle itself as a law of our constitution than to slur it over under the concise appellation of *habit*, which we apply in common to mind and to body.

The tendency in the human mind to associate or connect its thoughts together, is sometimes called (but very improperly) the *imagination*. Between these two parts of our constitution, there is indeed a very intimate relation; and it is probably owing to this relation, that they have been so generally confounded under the same name. When the mind is occupied about absent objects of sense, (which, I believe, it is habitually in the great majority of mankind) its train of thought is merely a series of conceptions; or, in common language, of imaginations.* In the case, too, of poetical imagination, it is the association of ideas that supplies the materials out of which its combinations are formed; and when such an imaginary combination is become familiar to the mind, it is the association of ideas that connects its different parts together, and unites them into one whole. The association of ideas, therefore, although

* Accordingly, Hobbes calls the train of thought in the mind, "Consequentia sive series imaginationum." "Per "seriem imaginationum intelligo successionem unius cogita-"tionis ad aliam."—LEVIATHAN, cap. iii.

perfectly diſtinct from the power of imagination, is immediately and eſſentially ſubſervient to all its exertions.

The laſt obſervation ſeems to me to point out, alſo, the circumſtance which has led the greater part of Engliſh writers, to uſe the words Imagination and Fancy as ſynonymous. It is obvious that a creative imagination, when a perſon poſſeſſes it ſo habitually that it may be regarded as forming one of the characteriſtics of his genius, implies a power of ſummoning up, at pleaſure a particular claſs of ideas; and of ideas related to each other in a particular manner; which power can be the reſult only, of certain habits of aſſociation, which the individual has acquired. It is to this power of the mind, which is evidently a particular turn of thought, and not one of the common principles of our nature, that our beſt writers (ſo far as I am able to judge) refer, in general, when they make uſe of the word *fancy*: I ſay, in general; for in diſquiſitions of this ſort, in which the beſt writers are ſeldom preciſe and ſteady in the employment of words, it is only to their prevailing practice that we can appeal, as an authority. What the particular relations are, by which thoſe ideas are connected that are ſubſervient to poetical imagination, I ſhall not inquire at preſent, I think they are chiefly thoſe of reſemblance and analogy. But whatever they may be, the power of ſummoning them up at pleaſure, as it is the ground-work of poetical genius, is of ſufficient importance in the human conſtitution to deſerve an appropriated name; and for this purpoſe the word *fancy* would appear to be the moſt convenient that our language affords.

Dr. Reid has ſomewhere obſerved, that "the "part of our conſtitution on which the aſſociation "of ideas depends, was called by the older Engliſh "writers, *the fantaſy or fancy*;" an uſe of the word, we may remark, which coincides, in many

instances, with that which I propose to make of it. It differs from it only in this, that these writers applied it to the association of ideas in general, whereas I restrict its application to that habit of association, which is subservient to poetical imagination.

According to the explanation which has now been given to the word Fancy, the office of this power is to collect materials for the Imagination; and therefore the latter power presupposes the former, while the former does not necessarily suppose the latter. A man whose habits of association present to him, for illustrating or embellishing a subject, a number of resembling or of analogous ideas, we call a man of fancy: but for an effort of imagination, various other powers are necessary, particularly the powers of taste and of judgment; without which, we can hope to produce nothing that will be a source of pleasure to others. It is the power of fancy which supplies the poet with metaphorical language, and with all the analogies which are the foundation of his allusions; but it is in the power of imagination that creates the complex scenes he describes, and the fictitious characters he delineates. To fancy, we apply the epithets of rich or luxuriant; to imagination, those of beautiful or sublime.

SECTION II.

Of the Principles of Association among our Ideas.

THE facts which I stated in the former Section, to illustrate the tendency of a perception, or of an idea to suggest ideas related to it, are so obvious as to be matter of common remark. But the relations which connect all our thoughts together, and the laws which regulate their succession were but litle attended to before the publication of Mr. Hume's writings.

It is well known to thoſe who are in the leaſt converſant with the preſent ſtate of metaphyſical ſcience that this eminent writer has attempted to reduce all the principles of aſſociation among our ideas to three: Reſemblance, Contiguity in time and place, and Cauſe and Effect. The attempt was great, and worthy of his genius; but it has been ſhewn by ſeveral writers ſince his time,* that his enumeration is not only incomplete, but that it is even indiſtinct, ſo far as it goes.

It is not neceſſary for my preſent purpoſe, that I ſhould enter into a critical examination of this part of Mr. Humes ſyſtem; or that I ſhould attempt to ſpecify thoſe principles of aſſociation which he has omitted. Indeed it, does not ſeem to me, that the problem admits of a ſatisfactory ſolution; for there is no poſſible relation among the objects of our knowledge, which may not ſerve to connect them together in the mind; and, therefore, although one enumeration may be more comprehenſive than another, a perfectly complete enumeration is ſcarcely to be expected.

* See, in particular, Lord Kaimes' Elements of Criticiſm, and Dr. Gerard's Eſſay on Genius. See alſo Dr. Campbell's Philoſophy of Rhetoric, vol. i. p. 197.

It is obſerved by Dr. Beattie, that ſomething like an attempt to enumerate the laws of aſſociation is to be found in Ariſtotle; who in ſpeaking of Recollection inſinuates, with his uſual brevity, that "the relations, by which we are led "from one thought to another, in tracing out or *hunting after*;" (as he calls it) "any particular thought which does "not immediately occur, are chiefly three; Reſemblance, "Contrariety, and Contiguity."

See *Diſſertations, Moral and Critical*, p. 9. Alſo p. 145.

The paſſage to which Dr. Beattie refers, is as follows:

Ὅταν ἐν ἀναμιμνήσκωμεθα, κινούμεθα τὸν πρότερον τινα κινήσεων, ἕως ἂν κινηθῶμεν, μεθ' ἣν ἐκείνη ἑπεται· διὸ καὶ τὸ ἐφεξῆς θηρεύομεν νοήσαντες ἀφ' τοῦ τυν, ἢ ἄλλου τινός, καὶ ἀφ' ὁμοίου, ἢ ἐναντίου, ἢ τοῦ συνεγγυς. Διὰ τοῦτο γίνεται ἡ ἀνάμνησις.

ARISTOT. *de Memor. et Reminiſc.* vol. i. p. 681. Edit. Du Val.

Nor is it merely in consequence of the relations among things, that our notions of them are associated; they are frequently coupled together by means of relations among the words which denote them; such as a similarity of sound, or other circumstances still more trifling. The alliteration which is so common in poetry, and in proverbial sayings, seems to arise, partly at least, from associations of ideas founded on the accidental circumstance, of the two words which express them beginning with the same letter.

"But thousands die, without or this or that,
"Die; and endow a College or a Cat."
POPE'S Ep. to Lord BATHURST.

"Ward tried, on Puppies, and the Poor his drop."
Id. Imitat. of Horace.

This indeed pleases only on slight occasions, when it may be supposed that the mind is in some degree playful, and under the influence of those principles of association which commonly take place when we are careless and disengaged. Every person must be offended with the second line of the following couplet, which forms a part of a very sublime description of the Divine power:

"Breathes in our soul, informs our mortal part,
"As full, as perfect, in a Hair as Heart."
ESSAY on MAN, Ep. i.

I have already said, that the view of the subject which I propose to take, does not require a complete enumeration of our principles of association. There is, however, an important distinction among them, to which I shall have occasion frequently to refer; and which, so far as I know, has not hitherto attracted the notice of philosophers. The relations upon which some of them are founded, are

perfectly obvious to the mind; those which are the foundation of others, are discovered only in consequence of particular efforts of attention. Of the former kind, are the relations of Resemblance and Analogy, of Vicinity in time and place, and those which arise from accidental coincidences in the sound of different words. These, in general, connect our thoughts together, when they are suffered to take their natural course, and when we are conscious of little or no active exertion. Of the latter kind, is the relation of premises and consequences, and those others, which regulate the train of thought in the mind of the philosopher, when he is engaged in a particular investigation.

The facility with which ideas are associated in the mind, is very different in different individuals: a circumstance which, as I shall afterwards shew, lays the foundation of remarkable varieties among men, both in respect of genius and of character. I am inclined, too, to think that, in the other sex (probably in consequence of early education) ideas are more easily associated together, than in the minds of men. Hence the liveliness of their fancy, and the superiority they possess in epistolary writing, and in those kinds of poetry, in which the principal recommendations are, ease of thought and expression. Hence, too, the facility with which they contract or lose habits, and accommodate their minds to new situations; and, I may add, the disposition they have to that species of superstition which is founded on accidental combinations of circumstances. The influence which this facility of association has on the power of taste, shall be afterwards considered.

SECTION III.

Of the Power which the Mind has over the Train of its Thoughts.

BY means of the association of ideas, a conſtant current of thoughts, if I may uſe the expreſſion, is made to paſs through the mind while we are awake. Sometimes the current is interrupted, and the thoughts diverted into a new channel, in conſequence of the ideas ſuggeſted by other men, or of the objects of perception with which we are ſurrounded. So completely, however, is the mind in this particular ſubjected to phyſical laws, that it has been juſtly obſerved,* we cannot, by an effort of our will, call up any one thought; and that the train of ideas depends on cauſes which operate in a manner inexplicable by us.

This obſervation, although it has been cenſured as paradoxical, is almoſt ſelf-evident; for, to call up a particular thought, ſuppoſes it to be already in the mind. As I ſhall have frequent occaſion, however, to refer to the obſervation afterwards, I ſhall endeavour to obviate the only objection which, I think, can reaſonably be urged againſt it; and which is founded on that operation of the mind, which is commonly called recollection or intentional memory.

It is evident, that, before we attempt to recollect the particular circumſtances of any event, that event in general muſt have been an object of our attention. We remember the outlines of the ſtory, but cannot at firſt give a complete account of it. If we wiſh to recal theſe circumſtances, there are only two ways in which we can proceed. We muſt either form different ſuppoſitions, and then

* By Lord Kaims, and others.

conſider which of theſe tallies beſt with the other circumſtances of the event; or, by revolving in our mind the circumſtances we remember, we muſt endeavour to excite the recollection of the other circumſtances aſſociated with them. The firſt of theſe proceſſes is, properly ſpeaking, an inference of reaſon, and plainly furniſhes no exception to the doctrine already delivered. We have an inſtance of the other mode of recollection, when we are at a loſs for the beginning of a ſentence in reciting a compoſition that we do not perfectly remember; in which caſe we naturally repeat over, two or three times, the concluding words of the preceding ſentence, in order to call up the other words which uſed to be connected with them in the memory. In this inſtance, it is evident, that the circumſtances we deſire to remember, are not recalled to the mind in immediate conſequence of an exertion of volition, but are ſuggeſted by ſome other circumſtances with which they are connected, independently of our will, by the laws of our conſtitution.

Notwithſtanding, however, the immediate dependence of the train of our thoughts on the laws of aſſociation, it muſt not be imagined that the will poſſeſſes no influence over it. This influence, indeed, is not exerciſed directly and immediately, as we are apt to ſuppoſe, on a ſuperficial view of the ſubject: but it is, nevertheleſs, very extenſive in its effects; and the different degrees in which it is poſſeſſed by different individuals, conſtitute ſome of the moſt ſtriking inequalities among men, in point of intellectual capacity.

Of the powers which the mind poſſeſſes over the train of its thoughts, the moſt obvious is its power of ſingling out any one of them at pleaſure; of detaining it; and of making it a particular object of attention. By doing ſo, we not only ſtop the ſucceſſion that would otherwiſe take place; but, in conſequence of our bringing to view the leſs obvi-

ous relations among our ideas, we frequently divert the current of our thoughts into a new channel. If, for example, when I am indolent and inactive, the name of Sir Iſaac Newton accidentally occur to me, it will perhaps ſuggeſt one after another, the names of ſome other eminent mathematicians and aſtronomers, or ſome of his illuſtrious cotemporaries and friends: and a number of them may paſs in review before me, without engaging my curioſity in any conſiderable degree. In a different ſtate of mind, the name of Newton will lead my thoughts to the principal incidents of his life, and the more ſtriking features of his character: or, if my mind be ardent and vigorous, will lead my attention to the ſublime diſcoveries he made; and naturally engage me in ſome philoſophical inveſtigation. To every object, there are others which bear obvious and ſtriking relations; and others, alſo, whoſe relation to it does not readily occur to us unleſs we dwell upon it for ſome time, and place it before us in different points of view.

But the principal power we poſſeſs over the train of our ideas, is founded on the influence which our habits of thinking have on the laws of Aſſociation; an influence which is ſo great, that we may often form a pretty ſhrewd judgment concerning a man's prevailing turn of thought, from the tranſitions he makes in converſation or in writing. It is well known, too, that by means of habit, a particular aſſociating principle may be ſtrengthened to ſuch a degree, as to give us a command of all the different ideas in our mind, which have a certain relation to each other; ſo that when any one of the claſs occurs to us, we have almoſt a certainty that it will ſuggeſt the reſt. What confidence in his own powers, muſt a ſpeaker poſſeſs, when he riſes without premeditation, in a popular aſſembly, to amuſe his audience with a lively or an humorous ſpeech! Such a confidence, it is evident, can only ariſe from

a long experience of the ſtrength of particular aſſociating principles.

To how great a degree this part of our conſtitution may be influenced by habit, appears from facts which are familiar to every one. A man who has an ambition to become a punſter, ſeldom or never fails in the attainment of his object; that is, he ſeldom or never fails in acquiring a power which other men have not, of ſummoning up, on a particular occaſion, a number of words different from each other in meaning, and reſembling each other more or leſs in ſound. I am inclined to think that even genuine wit is a habit acquired in a ſimilar way; and that, although ſome individuals may, from natural conſtitution, be more fitted than others to acquire this habit; it is founded in every caſe on a peculiarly ſtrong aſſociation among certain claſſes of our ideas, which gives the perſon who poſſeſſes it, a command over thoſe ideas, which is denied to ordinary men. But there is no inſtance in which the effect of habits of aſſociation is more remarkable, than in thoſe men who poſſeſs a facility of rhyming. That a man ſhould be able to expreſs his thoughts perſpicuouſly and elegantly, under the reſtraints which rhyme impoſes, would appear to be incredible, if we did not know it to be fact. Such a power implies a wonderful command both of ideas and of expreſſions; and yet daily experience ſhews, that it may be gained with very little practice. Pope tells us with reſpect to himſelf, that he could expreſs himſelf not only more conciſely, but more eaſily, in rhyme than in proſe.*

* "When habit is once gained, nothing ſo eaſy as practice. Cicero writes, that Antipater the Sidonian could pour forth hexameters extempore; and that, whenever he choſe to verſify, words followed him of courſe. We may add to Antipater, the ancient rhapſodiſts of the Greeks, and the modern improviſatori of the Italians."

HARRIS's Phil. Inq. 109, 110.

Nor is it only in these trifling accomplishments hat we may trace the influence of habits of asso- iation. In every instance of invention, either in he fine arts, in the mechanical arts, or in the scien- es, there is some new idea, or some new combina- ion of ideas, brought to light by the inventor. This, undoubtedly, may often happen in a way which he is unable to explain; that is, his in- vention may be suggested to him by some lucky thought, the origin of which he is unable to trace. But when a man possesses a habitual fertility of in- vention in any particular art or science, and can re- y, with confidence, on his inventive powers, when- ever he is called upon to exert them, he must have acquired, by previous habits of study, a command over certain classes of his ideas, which enables him, at pleasure, to bring them under his review. The illustration of these subjects will, I flatter myself, throw light on some processes of the mind, which are not in general well understood; and I shall, ac- cordingly, in the following Section, offer a few hints, with respect to those habits of association which are the foundation of wit; of the power of rhyming; and of poetical fancy; and of invention in matters of science.

SECTION IV.

Illustrations of the Doctrine stated in the preceding Section.

1. Of Wit.

ACCORDING to Locke, Wit consists "in 'the assemblage of ideas; and putting those to- 'gether with quickness and variety, wherein can 'be found any resemblance or congruity."* I

* Essay on Human Understanding, book ii. chap. 11.

would add to this definition, (rather by way of explanation than amendment,) that Wit implies a power of calling up at pleaſure the ideas which it combines: and I am inclined to believe, that the entertainment which it gives to the hearer, is founded, in a conſiderable degree, on his ſurpriſe, at the command which the man of wit has acquired over a part of the conſtitution, which is ſo little ſubject to the will.

That the effect of wit depends partly, at leaſt, on the circumſtance now mentioned, appears evidently from this, that we are more pleaſed with a *bon mot*, which occurs in converſation, than with one in print; and that we never fail to receive diſguſt from wit, when we ſuſpect it to be premeditated. The pleaſure, too, we receive from wit, is heightened, when the original idea is ſtarted by one perſon, and the related idea by another. Dr. Campbell has remarked, that, "a witty repartee is infinitely "more pleaſing, than a witty attack; and that an "alluſion will appear excellent when thrown out "extempore in converſation, which would be deem-"ed execrable in print." In all theſe caſes, the wit conſidered abſolutely is the ſame. The relations which are diſcovered between the compared ideas are equally new: and yet, as ſoon as we ſuſpect that the wit was premeditated, the pleaſure we receive from it is infinitely diminiſhed. Inſtances, indeed, may be mentioned, in which we are pleaſed with contemplating an unexpected relation between ideas, without any reference to the habits of aſſociation in the mind of the perſon who diſcovered it. A *bon mot* produced at the game of croſs-purpoſes, would not fail to create amuſement; but in ſuch caſes, our pleaſure ſeems chiefly to ariſe from the ſurpriſe we feel at ſo extraordinary a coincidence between a queſtion and an anſwer, coming from perſons who had no direct communication with each other.

I before obſerved, that the pleaſure we receive from wit is increaſed, when the two ideas between which the relation is diſcovered, are ſuggeſted by different perſons. In the caſe of a *bon mot* occurring in converſation, the reaſon of this is abundantly obvious; becauſe, when the related ideas are ſuggeſted by different perſons, we have a proof that the wit was not premeditated. But even in a written compoſition, we are much more delighted when the ſubject was furniſhed to the author by another perſon than when he chuſes the topic on which he is to diſplay his wit. How much would the pleaſure we receive from the *Key to the Lock* be diminiſhed, if we ſuſpected that the author had the key in view when he wrote that poem; and that he introduced ſome expreſſions, in order to furniſh a ſubject for the wit of the commentator? How totally would it deſtroy the pleaſure we receive from a parody on a poem, if we ſuſpected that both were productions of the ſame author? The truth ſeems to be, that when both the related ideas are ſuggeſted by the ſame perſon, we have not a very ſatisfactory proof of any thing uncommon in the intellectual habits of the author. We may ſuſpect that both ideas occurred to him at the ſame time; and we know that in the dulleſt and moſt phlegmatic minds, ſuch extraordinary aſſociations will ſometimes take place. But when the ſubject of the wit is furniſhed by one perſon, and the wit ſuggeſted by another, we have a proof, not only that the author's mind abounds with ſuch ſingular aſſociations, but that he has his wit perfectly at command.

As an additional confirmation of theſe obſervations, we may remark that the more an author is limited by his ſubject, the more we are pleaſed with his wit. And, therefore, the effect of wit does not ariſe ſolely from the unexpected relations which it preſents to the mind, but ariſes, in part from the ſurprize it excites at thoſe intellectual habits which

give it birth. It is evident, that the more the author is circumſcribed in the choice of his materials the greater muſt be the command which he has acquired over thoſe aſſociating principles on which wit depends, and of conſequence, according to the foregoing doctrine, the greater muſt be the ſurpriſe and the pleaſure which his wit produces. In Addiſon's celebrated verſes to Sir Godfrey Kneller on his picture of George the Firſt, in which he compares the painter to Phidias, and the ſubjects of his pencil to the Grecian Deities, the range of the poet's wit was neceſſarily confined within very narrow bounds; and what principally delights us in that performance is, the ſurpriſing eaſe and felicity with which he runs the parallel between the Engliſh hiſtory and the Greek mythology. Of all the alluſion which the following paſſage contains, there is not one, taken ſingly, of very extraordinary merit; and yet the effect of the whole is uncommonly great, from the ſingular power of combination, which ſo long and ſo difficult an exertion diſcovers.

" Wiſe Phidias thus, his ſkill to prove,
" Thro' many a god advanced to Jove,
" And taught the poliſh'd rocks to ſhine
" With airs and lineaments divine,
" Till Greece amaz'd and half afraid,
" Th' aſſembled Deities ſurvey'd.
" Great Pan, who wont to chaſe the fair,
" And lov'd the ſpreading oak, was there;
" Old Saturn, too, with up-caſt eyes,
" Beheld his abdicated ſkies;
" And mighty Mars for war renown'd,
" In adamantine armour frown'd;
" By him the childleſs Goddeſs roſe,
" Minerva, ſtudious to compoſe
" Her twiſted threads; the web ſhe ſtrung.
" And o'er a loom of marble hung;
" Thetis, the troubled ocean's queen,
" Match'd with a mortal next was ſeen,
" Reclining on a funeral urn,
" Her ſhort-lived darling ſon to mourn;

" The laſt was he, whoſe thunder flew
" The Titan-race, a rebel crew,
" That from a hundred hills ally'd,
" In impious league their King defy'd."

According to the view which I have given of the nature of Wit, it preſuppoſes not only peculiar habits of aſſociation, but a mind ſtored with a great variety of ideas: and, accordingly, it has been remarked by Dr. Wharton,* that " the chief of thoſe " who have excelled in works of wit and humour, " have been men of extenſive learning." He inſtances Lucian, Cervantes, Quevedo, Rabelais, Butler, and the members of the Scriblerus club.

II. *Of Rhyme.*

The pleaſure we receive from rhyme, ſeems alſo to ariſe partly, from our ſurpriſe at the command which the Poet muſt have acquired over the train of his ideas, in order to be able to expreſs himſelf with elegance, and the appearance of eaſe, under the reſtraint which rhyme impoſes. In witty or in humorous performances, this ſurpriſe ſerves to enliven that which the wit or the humour produces, and renders its effects more ſenſible. How flat do the livelieſt and moſt ludicrous thoughts appear in blank verſe? And how wonderfully is the wit of Pope heightened, by the eaſy and happy rhymes in which it is expreſſed?

It muſt not, however, be imagined, either in the caſe of wit or of rhyme, that the pleaſure ariſes ſolely from our ſurpriſe at the uncommon habits of aſſociation which the author diſcovers. In the former caſe, there muſt be preſented to the mind, an unexpected analogy or relation between different ideas: and perhaps other circumſtances muſt concur to render the wit perfect. If the combination has no

* Eſſay on the Genius and Writings of Pope.

other merit than that of bringing together two ideas which never met before, we may be ſurpriſed at its oddity, but we do not conſider it as a proof of wit. On the contrary, the want of an analogy or relation between the combined ideas, leads us to ſuſpect, that the one did not ſuggeſt the other in conſequence of any habits of aſſociation; but that the two were brought together by ſtudy or by mere accident. All that I affirm is, that when the analogy or relation is pleaſing in itſelf, our pleaſure is heightened by our ſurpriſe at the author's habits of aſſociation when compared with our own. In the caſe of rhyme, too there is undoubtedly a certain degree of pleaſure ariſing from the recurrence of the ſame ſounds. We frequently obſerve children amuſe themſelves with repeating over ſingle words which rhyme together: and the lower people, who derive little pleaſure from poetry, excepting in ſo far as it affects the ear, are ſo pleaſed with the echo of the rhymes, that when they read verſes where it is not perfect, they are apt to ſupply the Poet's defects, by violating the common rules of pronunciation. This pleaſure, however, is heightened by our admiration at the miraculous powers which the poet muſt have acquired over the train of his ideas, and over all the various modes of expreſſion which the language affords, in order to convey inſtruction and entertainment, without tranſgreſſing the eſtabliſhed laws of regular verſification. In ſome of the lower kinds of poetry; for example, in acroſtics, and in the lines which are adapted to *boutes-rimés*, the merit lies entirely in this command of thought and expreſſion; or in other words, in a command of ideas founded on extraordinary habits of aſſociation. Even ſome authors of a ſuperior claſs, occaſionally ſhew an inclination to diſplay their knack at rhyming, by introducing, at the end of the firſt line of a couplet, ſome word to which the language hardly affords a correſponding ſound.

Swift, in his more trifling pieces, abounds with inſtances of this; and in Hudibras, when the author uſes his double and triple rhymes, many couplets have no merit whatever but what ariſes from difficulty of execution.

The pleaſure we receive from rhyme in ſerious compoſitions, ariſes from a combination of different circumſtances which my preſent ſubject does not lead me to inveſtigate particularly.* I am perſuaded, however, that it ariſes, in part, from our ſurpriſe at the Poet's habits of aſſociation, which enable him to convey his thoughts, with eaſe and beauty, notwithſtanding the narrow limits within which his choice of expreſſion is confined. One proof of this is, that if there appear any mark of conſtraint, either in the ideas or in the expreſſion, our pleaſure is proportionally diminiſhed. The thoughts muſt ſeem to ſuggeſt each other, and the rhymes to be only an accidental circumſtance. The ſame remark may be made on the meaſure of the verſe. When in its greateſt perfection, it does not appear to be the reſult of labour, but to be dictated by nature, or prompted by inſpiration. In Pope's beſt verſes, the idea is expreſſed with as little inverſion of ſtyle

* In Elegiac poetry, the recurrence of the ſame ſound, and the uniformity in the ſtructure of the verſification which this neceſſarily occaſions, are peculiarly ſuited to the inactivity of the mind, and to the ſlow and equable ſucceſſion of its ideas, when under the influence of tender or melancholy paſſions; and accordingly, in ſuch caſes, even the Latin poets, though the genius of their language be very ill fitted for compoſitions in rhyme, occaſionally indulge themſelves in ſomething very nearly approaching to it.

"Memnona ſi mater, mater ploravit Achillem.
"Et tangant magnas triſtia fata Deas;
"Flebilis indignos Elegeia ſolve capillos,
"Ah nimis ex vero nunc tibi nomen, erit."

Many other inſtances of the ſame kind might be produced from the Elegiac verſes of Ovid and Tibullus.

and with as much conciſeneſs, preciſion, and propriety, as the author could have attained, had he been writing proſe: without any apparent exertion on his part, the words ſeem ſpontaneouſly to arrange themſelves in the moſt muſical numbers.

"While ſtill a child, nor yet a fool to fame.
"I liſp'd in numbers, for the numbers came."

This facility of verſification, it is true, may be, and probably is, in moſt caſes, only apparent: and it is reaſonable to think, that in the moſt perfect poetical productions, not only the choice of words, but the choice of ideas, is influenced by the rhymes. In a proſe compoſition. the author holds on in a direct courſe, according to the plan he has previouſly formed; but in a poem, the rhymes which occur to him are perpetually diverting him to the right hand or to the left, by ſuggeſting ideas which do not naturally riſe out of his ſubject. This, I preſume, is Butler's meaning in the following couplet:

"Rhymes the rudder are of verſes
"With which, like ſhips, they ſteer their courſes."

But although this may be the caſe in fact, the Poet muſt employ all his art to conceal it: inſomuch that, if he finds himſelf under a neceſſity to introduce on account of the rhymes, a ſuperfluous idea, or an awkward expreſſion, he muſt place it in the firſt line of the couplet, and not in the ſecond; for the reader, naturally preſuming that the lines were compoſed in the order in which the author arranges them, is more apt to ſuſpect the ſecond line to be accommodated to the firſt, than the firſt to the ſecond. And this ſlight artifice is, in general, ſufficient to impoſe on that degree of attention with which poetry is read. Who can doubt that, in the following lines, Pope wrote the firſt for the ſake of the ſecond?

"A wit's a feather, and a chief a rod;
"An honeſt man's the nobleſt work of God."

Were the firſt of theſe lines, or a line equally unmeaning, placed laſt, the couplet would have appeared execrable to a perſon of the moſt moderate taſte.

It affords a ſtrong confirmation of the foregoing obſervations, that the Poets of ſome nations have delighted in the practice of alliteration, as well as of rhyme, and have even conſidered it as an eſſential circumſtance in verſification. Dr. Beattie obſerves that "ſome ancient Engliſh poems are more diſtinguiſhed by alliteration, than by any other poetical contrivance. In the works of Langland, even when no regard is had to rhyme, and but little to a rude ſort of anapeſtic meaſure, it ſeems to have been a rule, that three word, at leaſt, of each line ſhould begin with the ſame letter." A late author informs us, that, in the Icelandic poetry, alliteration is conſidered as a circumſtance no leſs eſſential than rhyme.* He mentions alſo ſeveral other reſtraints, which muſt add wonderfully to the difficulty of verſification; and which appear to us to be perfectly arbitrary and capricious. If that really be the caſe, the whole pleaſure of the reader or hearer ariſes from his ſurprize at the facility of the Poet's compoſition, under theſe complicated reſtraints; that is, from his ſurprize at the command which the Poet has acquired over his thoughts and expreſſions. In our rhyme, I acknowledge, that the coincidence of ſound is agreeable in itſelf: and only affirm, that the pleaſure which the ear receives from it, is heightened by the other conſideration.

* "The Icelandic poetry requires two things; viz. words "with the ſame initial letters, and words of the ſame ſound. "It was divided into ſtanzas, each of which conſiſted of four "couplets; and each of theſe couplets was again compoſed "of two hemiſtics of which every one contained ſix ſylla"bles; and it was not allowed to augment this number, ex"cept in caſes of the greateſt neceſſity."

See VAN TROIL's Letters on Iceland, p. 208.

III. *Of Poetical Fancy.*

THERE is another habit of aſſociation, which in ſome men, is very remarkable; that which is the foundation of poetical fancy: a talent which agrees with wit in ſome circumſtances, but which differs from it eſſentially in others.

The pleaſure we receive from wit, agrees in one particular with the pleaſure which ariſes from poetical alluſions; that in both caſes we are pleaſed with contemplating an analogy between two different ſubjects. But they differ in this, that the man of wit has no other aim than to combine analogous ideas;* whereas no alluſion can with propriety, have a place in ſerious poetry, unleſs it either illuſtrate or adorn the principal ſubject. If it has both theſe recommendations, the alluſion is perfect. If it has neither, as is often the caſe with the alluſions of Cowley and of Young, the fancy of the poet degenerates into wit.

If theſe obſervations be well-founded, they ſuggeſt a rule with reſpect to poetical alluſions, which has not always been ſufficiently attended to. It frequently happens that two ſubjects bear an analogy to each other in more reſpects than one; and where ſuch can be found, they undoubtedly furniſh the moſt favourable of all occaſions for the diſplay of wit. But, in ſerious poetry, I am inclined to think that however ſtriking theſe analogies may be; and although each of them might, with propriety, be made the foundation of a ſeparate alluſion; it is improper, in the courſe of the ſame alluſion, to include more than one of them; as by doing ſo, an author diſcovers an affectation of wit, or a deſire

* I ſpeak here of pure and unmixed wit, and not of wit, blended as it is moſt commonly, with ſome degree of humour.

of tracing analogies, inſtead of illuſtrating or adorning the ſubject of his compoſition.

I formerly defined fancy to be a power of aſſociating ideas according to relations of reſemblance and analogy. This definition will probably be thought too general; and to approach too near to that given of wit. In order to diſcover the neceſſary limitations, we ſhall conſider what the circumſtances are, which pleaſe us in poetical alluſions. As theſe alluſions are ſuggeſted by fancy, and are the moſt ſtriking inſtances in which it diſplays itſelf, the received rules of critics with reſpect to them, may throw ſome light on the mental power which gives them birth.

1. An alluſion pleaſes, by illuſtrating a ſubject comparatively obſcure. Hence I apprehend, it will be found, that alluſions from the intellectual world to the material, are more pleaſing, than from the material world to the intellectual. Maſon, in his ode to memory, compares the influence of that faculty over our ideas, to the authority of a general over his troops:

——"thou, whoſe ſway
"The throng'd ideal hoſts obey;
"Who bidſt their ranks now vaniſh, now appear,
"Flame in the van, or darken in the rear."

Would the alluſion have been equally pleaſing, from a general marſhalling his ſoldier, to memory and the ſucceſſion of ideas?

The effect of a literal and ſpiritleſs tranſlation of a work of genius, has been compared to that of the figures which we ſee, when we look at the wrong ſide of a beautiful piece of tapeſtry. The alluſion is ingenious and happy; but the pleaſure which we receive from it ariſes, not merely from the analogy which it preſents to us, but from the illuſtration which it affords of the author's idea. No one, ſurely, in ſpeaking of a piece of tapeſtry, would think of comparing the difference between

its ſides, to that between an original compoſition and a literal tranſlation!

Cicero, and after him Mr. Locke, in illuſtrating the difficulty of attending to the ſubjects of our conſciouſneſs, have compared the mind to the eye, which ſees every object around it, but is inviſible to itſelf. To have compared the eye in this reſpect, to the mind, would have been abſurd.

Mr. Pope's compariſon of the progreſs of youthful curioſity, in the purſuits of ſcience, to that of a traveller among the Alps, has been much, and juſtly admired. How would the beauty of the alluſion have been diminiſhed, if the Alps had furniſhed the original ſubject, and not the illuſtration!

But although this rule holds, in general, I acknowledge, that inſtances may be produced, from our moſt celebrated poetical performances, of alluſions from material objects, both to the intellectual and the moral worlds. Theſe, however, are comparatively few in number, and are not to be found in deſcriptive, or in didactic works; but in compoſitions written under the influence of ſome particular paſſion, or which are meant to expreſs ſome peculiarity in the mind of the author. Thus, a melancholy man, who has met with many misfortunes in life, will be apt to moraiize on every phyſical event, and every appearance of nature; becauſe his attention dwells more habitually on human life and conduct, than on the material objects around him.—This is the caſe with the baniſhed duke in Shakeſpeare's *As you like it*, who in the language of that poet,

> "Finds tongues in trees, books in the running brooks,
> "Sermons in ſtones, and good in every thing."

But this is plainly a diſtempered ſtate of the mind; and the alluſions pleaſe us, not ſo much by the analogies they preſent to us, as by the picture they give of the character of the perſon to whom they have occurred.

2. An alluſion pleaſes, by preſenting a new and beautiful image to the mind. The analogy or the reſemblance between this image and the principal ſubject, is agreeable of itſelf, and is indeed neceſſary, to furniſh an apology for the tranſition which the writer makes; but the pleaſure is wonderfully heightened, when the new image thus preſented is a beautiful one. The following alluſion, in one of Mr. Home's Tragedies, appears to me to unite almoſt every excellence:

——"Hope and fear, alternate, ſway'd his breaſt;
"Like light and ſhade upon a waving field,
"Courſing each other, when the flying clouds
"Now hide, and now reveal, the Sun."

Here the analogy is remarkably perfect; not only between light and hope, and between darkneſs and fear; but between the rapid ſucceſſion of light and ſhade, and the momentary influences of theſe oppoſite emotions: and, at the ſame time, the new image which is preſented to us, is one of the moſt beautiful and ſtriking in nature.

The foregoing obſervations ſuggeſt a reaſonwhy the principal ſtores of fancy are commonly ſuppoſed to be borrowed from the material world. Wit has a more extenſive province, and delights to make new combinations, whatever be the nature of the compared ideas: but the favorite excurſions of fancy, are from intellectual and moral ſubjects to the appearances with which our ſenſes are converſant. The truth is, that ſuch alluſions pleaſe more than any others in poetry. According to this limited idea of fancy, it preſuppoſes, where it is poſſeſſed in an eminent degree, an extenſive obſervation of natural objects, and a mind ſuſceptible of ſtrong impreſſions from them. It is thus only that a ſtock of images can be acquired; and that theſe images will be ready to preſent themſelves, whenever any analogous ſubject occurs. And hence probably it is that po-

etical genius is almoſt always united with an exquiſite ſenſibility to the beauties of nature.

Before leaving the ſubject of fancy, it may not be improper to remark, that its two qualities are, livelineſs and luxuriancy. The word *lively* refers to quickneſs of the aſſociation. The word *rich* or *luxuriant* to the variety of aſſociated ideas.

IV. *Of Invention in the Arts and Sciences.*

TO theſe powers of wit and fancy, that of invention in the arts and ſciences, has a ſtriking reſemblance. Like them it implies a command over certain claſſes of ideas, which in ordinary men, are not equally ſubject to the will: and like them too, it is the reſult of acquired habits, and not the original gift of nature.

Of the proceſs of the mind in ſcientific invention I propoſe afterwards to treat fully, under the article of reaſoning; and I ſhall therefore confine myſelf at preſent to a few detached remarks upon ſome views of the ſubject which are ſuggeſted by the foregoing inquiries.

Before we proceed, it may be proper to take notice of the diſtinction between invention and diſcovery. The object of the former, as has been frefrequently remarked, is to produce ſomething which had no exiſtence before; that of the latter, to bring to light ſomething which did exiſt, but which was concealed from common obſervation. Thus we ſay, Otto Guerricke invented the air-pump; Sanctorius invented the thermometer; Newton and Gregory invented the reflecting teleſcope: Galileo diſcovered the ſolar ſpots; and Harvey diſcovered the circulation of the blood. It appears, therefore, that improvements in the arts are properly called *inventions;* and that facts brought to light by means of obſervation, are properly called *diſcoveries.*

Agreeable to this analogy, is the uſe which we

make of these words, when we apply them to subjects purely intellectual. As truth is eternal and immutable, and has no dependence on our belief or disbelief of it, a person who brings to light a truth formerly unknown, is said to make a discovery. A person, on the other hand, who contrives a new method of discovering truth, is called an inventor. Pythagoras, we say, discovered the forty-seventh proposition of Euclid's first book; Newton discovered the binomial theorem; but he invented the method of prime and ultimate ratios; and he invented the method of fluxions.

In general, every advancement in knowledge is considered as a discovery; every contrivance by which we produce an effect, or accomplish an end, is considered as an invention. Discoveries in science therefore, unless they are made by accident, imply the exercise of invention; and, accordingly, the word *invention* is commonly used to express originality of genius in the sciences, as well as in the arts. It is in this general sense that I employ it in the following observations.

It was before remarked, that in every instance of invention, there is some new idea, or some new combination of ideas, which is brought to light by the inventor; and that, although this may sometimes happen, in a way which he is unable to explain, yet when a man possesses an habitual fertility of invention in any particular art or science, and can rely, with confidence, on his inventive powers whenever he is called upon to exert them; he must have acquired, by previous habits of study, a command over those classes of his ideas, which are subservient to the particular effort that he wishes to make. In what manner this command is acquired it is not possible, perhaps, to explain completely; but it appears to me to be chiefly in the two following ways. In the first place, by his habits of speculation, he may have arranged his knowledge in such

a manner, as may render it eaſy for him to combine at pleaſure, all the various ideas in his mind, which have any relation to the ſubject about which he is occupied: or ſecondly, he may have learned by experience, certain general rules, by means of which, he can direct the train of his thoughts into thoſe channels in which the ideas he is in queſt of may be moſt likely to occur to him.

1. The former of theſe obſervations, I ſhall not ſtop to illuſtrate particularly at preſent; as the ſame ſubject will occur afterwards, under the article of memory. It is ſufficient for my purpoſe, in this chapter, to remark, that as habits of ſpeculation have a tendency to claſſify our ideas, by leading us to refer particular facts and particular truths to general principles; and as it is from an approximation and compariſon of related ideas, that new diſcoveries in moſt inſtances reſult; the knowledge of the philoſopher, even ſuppoſing that it is more extenſive, is arranged in a manner much more favorable to invention, than in a mind unaccuſtomed to ſyſtem.

How much invention depends on a proper combination of the materials of our knowledge, appears from the reſources which occur to men of the loweſt degree of ingenuity, when they are preſſed by any alarming difficulty and danger; and from the unexpected exertions made by very ordinary characters, when called to ſituations which rouſe their latent powers. In ſuch caſes, I take for granted, that neceſſity operates in producing invention, chiefly by concentrating the attention of the mind to one ſet of ideas; by leading us to view theſe in every light, and to combine them variouſly with each other. As the ſame idea may be connected with an infinite variety of others by different relations; it may, according to circumſtances, at one time, ſuggeſt one of theſe ideas, and, at another time, a different one. When we dwell long on the

ſame idea, we obtain all the others to which it is any way related, and thus are furniſhed with materials on which our powers of judgment and reaſoning may be employed. The effect of the diviſion of labour, in multiplying mechanical contrivances, is to be explained partly on the ſame principle. It limits the attention to a particular ſubject, and familiariſes to the mind all the poſſible combinations of ideas which have any relation to it.

Theſe obſervations ſuggeſt a remarkable difference between invention and wit. The former depends, in moſt inſtances, on a combination of thoſe ideas, which are connected by the leſs obvious principles of aſſociation; and it may be called forth, in almoſt any mind, by the preſſure of external circumſtances. The ideas which muſt be combined, in order to produce the latter, are chiefly ſuch as are aſſociated by thoſe ſlighter connexions, which take place when the mind is careleſs and diſengaged. "If you have real wit," ſays Lord Cheſterfield, "it "will flow ſpontaneouſly, and you need not aim at "it; for in that caſe, the rule, of the goſpel is re- "verſed; and it will prove, ſeek and you ſhall not "find." Agreeably to this obſervation, wit is promoted by a certain degree of intoxication, which prevents the exerciſe of that attention, which is neceſſary for invention in matters of ſcience. Hence too it is that thoſe who have the reputation of wits, are commonly men confident in their own powers, who allow the train of their ideas to follow, in a great meaſure its natural courſe; and hazard, in company, every thing, good or bad, that occurs to them. Men of modeſty and taſte ſeldom attempt wit in a promiſcuous ſociety; or if they are forced to make ſuch an exertion, they are ſeldom ſucceſsful. Such men however, in the circle of their friends, to whom they can unboſom themſelves without reſerve, are frequently the moſt amuſing and the moſt intereſting of companions; as the vivacity of their wit is

tempered by a correct judgment, and refined manners; and as its effect is heightened by that ſenſibility and delicacy, with which we ſo rarely find it accompanied in the common intercourſe of life.

When a man of wit makes an exertion to diſtinguiſh himſelf, his ſallies are commonly too far fetched to pleaſe. He brings his mind into a ſtate approaching to that of the inventor, and becomes rather ingenious than witty. This is often the caſe with the writers whom Johnſon diſtinguiſhes by the name of the metaphyſical poets.

Thoſe powers of invention, which neceſſity occaſionally calls forth in uncultivated minds, ſome individuals poſſeſs habitually. The related ideas which in the caſe of the former, are brought together by the ſlow efforts of attention and recollection, preſent themſelves to the latter, in conſequence of a more ſyſtematical arrangement of their knowledge. The inſtantaneouſneſs with which ſuch remote combinations are effected, ſometimes appears ſo wonderful, that we are apt to aſcribe it to ſomething like inſpiration; but it muſt be remembered, that when any ſubject ſtrongly and habitually occupies the thoughts, it gives us an intereſt in the obſervation of the moſt trivial circumſtance which we ſuſpect to have any relation to it, however diſtant; and by thus rendering the common objects and occurrences which the accidents of life preſent to us, ſubſervient to one particular employment of the intellectual powers, eſtabliſhes in the memory a connection between our favourite purſuit, and all the materials with which experience and reflection have ſupplied us for the farther proſecution of it.

II. I obſerved, in the ſecond place, that invention may be facilitated by general rules, which enable the inventor to direct the train of his thoughts into particular channels. Theſe rules (to aſcertain which, ought to be one principle object of the logician) will afterwards fall under my conſideration, when I

come to examine thoſe intellectual proceſſes which are ſubſervient to the diſcovery of truth. At preſent I ſhall confine myſelf to a few general remarks; in ſtating which I have no other aim than to ſhew, to how great a degree invention depends on cultivation and habit, even in thoſe ſciences in which it is generally ſuppoſed that every thing depends on natural genius.

When we conſider the geometrical diſcoveries of the ancients, in the form in which they are exhibited in the greater part of the works which have ſurvived to our times, it is ſeldom poſſible for us to trace the ſteps by which they were led to their concluſions: and, indeed, the objects of this ſcience are ſo unlike thoſe of all others, that it is not unnatural for a perſon, when he enters on the ſtudy, to be dazzled by its novelty, and to form an exaggerated conception of the genius of thoſe men who firſt brought to light ſuch a variety of truths, ſo profound and ſo remote from the ordinary courſe of our ſpeculations. We find, however, that even at the time when the ancient analyſis was unknown to the moderns; ſuch mathematicians as had attended to the progreſs of the mind in the diſcovery of truth, concluded *a priori*, that the diſcoveries of the Greek geometers, did not, at firſt, occur to them in the order in which they are ſtated in their writings. The prevailing opinion was that they had been poſſeſſed of ſome ſecret method of inveſtigation, which they carefully concealed from the world; and that they publiſhed the reſult of their labours in ſuch a form, as they thought would be moſt likely to excite the admiration of their readers. "O "quam bene foret," ſays *Petrus Nonius*, "ſi qui in "ſcientiis mathematicis ſcripſerint authores, ſcripta "reliquiſſent inventa ſua eodem methodo, et per eoſ-"dem diſcurſus, quibus ipſi in ea primum incide-"runt; et non, ut in mechanica loquitur Ariſtote-"les de artificibus, qui nobis foris oſtendunt ſuas

" quas fecerint machinas, ſed artificium abſcon-
" dunt, ut magis appareant admirabiles. Eſt
" utique inventio in arte qualibet diverſa multum a
" traditione : neque putandum eſt plurimas Euclidis
" et Archimedis propoſitiones fuiſſe ab illis ea via
" inventas qua nobis illi ipſas tradiderunt."* The revival of the ancient analyſis, by ſome late mathematicians in this country, has in part juſtified theſe remarks, by ſhewing to how great a degree the inventive powers of the Greek geometers were aided by that method of inveſtigation ; and by exhibiting ſome ſtriking ſpecimens of addreſs in the practical application of it.

The ſolution of problems, indeed, it may be ſaid, is but one mode in which mathematical invention may be diſplayed. The diſcovery of new truths is what we chiefly admire in an original genius ; and the method of analyſis gives us no ſatisfaction, with reſpect to the proceſs by which they are obtained.

To remove this difficulty completely, by explaining all the various ways in which new theorems may be brought to light, would lead to inquiries foreign to this work. In order, however, to render the proceſs of the mind, on ſuch occaſions, a little leſs myſterious than it is commonly ſuppoſed to be ; it may be proper to remark, that the moſt copious ſource of diſcoveries is the inveſtigation of problems ; which ſeldom fails (even although we ſhould not ſucceed in the attainment of the object which we have in view) to exhibit to us ſome relations, formerly unobſerved, among the quantities which are under conſideration. Of ſo great importance is it to concentrate the attention to a particular ſubject, and to check that wandering and diſſipated habit of thought, which in the caſe of moſt

* See ſome other paſſages to the ſame purpoſe, quoted from different writers, by Dr. Simſon, in the preface to his Reſtoration of the Loci Plani of Appollonius Pergæus, Glaſ. 1749.

perſons, renders their ſpeculations barren of any profit either to themſelves or to others. Many theorems, too, have been ſuggeſted by analogy; many have been inveſtigated from truths formerly known, by altering or by generaliſing the hypotheſis; and many have been obtained by a ſpecies of induction. An illuſtration of theſe various proceſſes of the mind would not only lead to new and curious remarks, but would contribute to diminiſh that blind admiration of original genius, which is one of the chief obſtacles to the improvement of ſcience.

The hiſtory of natural philoſophy, before and after the time of Lord Bacon, affords another very ſtriking proof, how much the powers of invention and diſcovery may be aſſiſted by the ſtudy of method: and in all the ſciences, without exception, whoever employs his genius with a regular and habitual ſucceſs, plainly ſhews, that it is by means of general rules that his inquiries are conducted. Of theſe rules, there may be many which the inventor never ſtated to himſelf in words; and, perhaps, he may even be unconſcious of the aſſiſtance which he derives from them; but their influence on his genius appears unqueſtionably, from the uniformity with which it proceeds; and in proportion as they can be aſcertained by his own ſpeculations, or collected by the logician, from an examination of his reſearches, ſimilar powers of invention will be placed within the reach of other men, who apply themſelves to the ſame ſtudy.

The following remarks, which a truly philoſophical artiſt has applied to painting, may be extended, with ſome trifling alterations, to all the different employments of our intellectual powers.

"What we now call genius, begins, not where "rules, abſtractedly taken, end; but where "known, vulgar, and trite rules have no longer "any place. It muſt of neceſſity be, that works "of genius, as well as every other effect, as it

"muſt have its cauſe, muſt likewiſe have its rules; "it cannot be by chance, that excellencies are "produced with any conſtancy, or any certainty, "for this is not the nature of chance: but the "rules by which men of extraordinary parts, and "ſuch as are called men of genius, work, are ei-"ther ſuch as they diſcover by their own peculiar "obſervation, or of ſuch a nice texture as not eaſi-"ly to admit handling or expreſſing in words.

"Unſubſtantial, however, as theſe rules may "ſeem, and difficult as it may be to convey them "in writing, they are ſtill ſeen and felt in the mind "of the artiſt; and he works from them with as "much certainty, as if they were embodied, as I "may ſay, upon paper. It is true, theſe refined "principles cannot be always made palpable, like "the more groſs rules of art; yet it does not fol-"low, but that the mind may be put in ſuch a train "that it ſhall perceive, by a kind of ſcientific ſenſe, "that propriety, which words can but very feebly "ſuggeſt."*

SECTION V.

Application of the Principles ſtated in the foregoing Sections of this Chapter, to explain the Phenomena of Dreaming.

WITH reſpect to the phenomena of dreaming, three different queſtions may be propoſed. Firſt; What is the ſtate of the mind in ſleep? or, in other words, what faculties then continue to operate, and what faculties are then ſuſpended? Secondly; how far do our dreams appear to be influenced by our bodily ſenſations; and in what reſ-

* Diſcourſes by Sir Joſhua Reynolds.

pects do they vary, according to the different conditions of the body in health, and in ſickneſs? Thirdly; what is the change which ſleep produce on thoſe parts of the *body*, with which our mental operations are more immediately connected; and how does this change operate, in diverſifying, ſo remarkably, the phenomena which our mind, then exhibit, from thoſe of which we are conſcious in our waking hours? Of theſe three queſtions, the firſt belongs to the Philoſophy of the Human Mind, and it is to this queſtion that the following inquiry is almoſt entirely confined. The ſecond is more particularly intereſting to the medical inquirer, and does not properly fall under the plan of this work. The third ſeems to me to relate to a ſubject, which is placed beyond the reach of the human faculties.

It will be granted, that, if we could aſcertain the ſtate of the mind in ſleep, ſo as to be able to reſolve the various phenomena of dreaming into a ſmaller number of more general principles; and ſtill more, if we could reſolve them into one general fact; we ſhould be advanced a very important ſtep in our inquiries upon this ſubject; even although we ſhould find it impoſſible to ſhew, in what manner this change in the ſtate of the mind reſults from the change which ſleep produces in the ſtate of the body. Such a ſtep would at leaſt gratify, to a certain extent, that diſpoſition of our nature which prompts us to aſcend from particular facts to general laws; and which is the foundation of all our philoſophical reſearches: and, in the preſent inſtance, I am inclined to think, that it carries us as far as our imperfect faculties enable us to proceed.

In conducting this inquiry with reſpect to the ſtate of the mind in ſleep, it ſeems reaſonable to expect, that ſome light may be obtained, from an examination of the circumſtances which accelerate or retard its approach; for, when we are diſpoſed to reſt, it is natural to imagine, that the ſtate of the mind ap-

proaches to its ſtate in ſleep, more nearly, than when we feel ourſelves alive and active, and capable of applying all various faculties to their proper purpoſes.

In general, it may be remarked, that the approach of ſleep is accelerated by every circumſtance which diminiſhes or ſuſpends the exerciſe of the mental powers; and is retarded by every thing which has a contrary tendency. When we wiſh for ſleep we naturally endeavour to withhold, as much as poſſible, all the active exertions of the mind, by diſengaging our attention from every intereſting ſubject of thought. When we are diſpoſed to keep awake, we naturally fix our attention on ſome ſubject which is calculated to afford employment to our intellectual powers, or to rouſe and exerciſe the active principles of our nature.

It is well known that there is a particular claſs of ſounds which compoſe us to ſleep. The hum of bees; the murmur of a fountain; the reading of an unintereſting diſcourſe; have this tendency in a remarkable degree. If we examine this claſs of ſounds, we ſhall find that it conſiſts wholly of ſuch as are fitted to withdraw the attention of the mind from its own thoughts; and are, at the ſame time, not ſufficiently intereſting, to engage its attention to themſelves.

It is alſo a matter of common obſervation, that children and perſons of little reflection, who are chiefly occupied about ſenſible objects, and whoſe mental activity is, in a great meaſure, ſuſpended, as ſoon as their perceptive powers are unemployed; find it extremely difficult to continue awake, when they are deprived of their uſual engagements. The ſame thing has been remarked of ſavages, whoſe time like that of the lower animals, is almoſt completely divided between ſleep and their bodily exertions.*

* "The exiſtence of the Negro ſlaves in America, ap-

From a conſideration of theſe facts, it ſeems reaſonable to conclude, that in ſleep thoſe operations of the mind are ſuſpended, which depend on our volition; for if it be certain, that before we fall aſleep we muſt withhold, as much as we are able, the exerciſe of all our different powers; it is ſcarcely to be imagined, that, as ſoon as ſleep commences, theſe powers ſhould again begin to be exerted. The more probable concluſion is, that when we are deſirous to procure ſleep, we bring both mind and body, as nearly as we can, into that ſtate in which they are to continue after ſleep commences. The difference, therefore, between the ſtate of the mind when we are inviting ſleep, and when we are actually aſleep, is this; that in the former caſe, although its active exertions be ſuſpended, we can renew them, if we pleaſe. In the other caſe, the will loſes its influence over all our powers both of mind and body; in conſequence of ſome phyſical alteration in the ſyſtem, which we ſhall never, probably, be able to explain.

In order to illuſtrate this concluſion a little farther it may be proper to remark, that, if the ſuſpenſion of our voluntary operations in ſleep be admitted as a fact, there are only two ſuppoſitions which can be formed concerning its cauſe. The one is, that the power of volition is ſuſpended; the other that the will loſes its influence over thoſe faculties of the mind, and thoſe members of the body, which, during our waking hours, are ſubjected to its authority. If it can be ſhewn, then, that the former ſuppoſition is not agreeable to fact, the truth of the latter ſeems to follow as a neceſſary conſequence.

"pears to participate more of ſenſation than reflection. To "this muſt be aſcribed, their diſpoſition to ſleep when ab- "ſtracted from their diverſions, and unemployed in their "labour. An animal whoſe body is at reſt, and who does "not reflect muſt be diſpoſed to ſleep of courſe."

Notes on Virginia, by Mr. JEFFERSON, *p.* 255.

1. That the power of volition is not ſuſpended during ſleep, appears from the efforts which we are conſcious of making while in that ſituation. We dream, for example, that we are in danger; and we attempt to call out for aſſiſtance. The attempt indeed, is, in general, unſucceſsful; and the ſounds which we emit, are feeble and indiſtinct: but this only confirms, or rather is, a neceſſary conſequence of the ſuppoſition, that, in ſleep, the connexion between the will and our voluntary operations, is diſturbed, or interrupted. The continuance of the power of volition is demonſtrated by the effort, however ineffectual.

In like manner, in the courſe of an alarming dream, we are ſometimes conſcious of making an exertion to ſave ourſelves, by flight, from an apprehended danger; but in ſpite of all our efforts, we continue in bed. In ſuch caſes, we commonly dream, that we are attempting to eſcape, and are prevented by ſome external obſtacle; but the fact ſeems to be, that the body is, at that time, not ſubject to the will. In the diſturbed reſt which we ſometimes have when the body is indiſpoſed, the mind appears to retain ſome power over it; but as, even in theſe caſes, the motions which are made, conſiſt rather of a general agitation of the whole ſyſtem, than of the regular exertion of a particular member of it, with a view to produce a certain effect; it is reaſonable to conclude, that in perfectly ſound ſleep, the mind, although it retains the power of volition, retains no influence whatever over the bodily organs.

2. The ſame concluſion is confirmed by a different view of the ſubject. It is probable, as was already obſerved, that when we are anxious to procure ſleep, the ſtate into which we naturally bring the mind, approaches to its ſtate after ſleep commences. Now it is manifeſt, that the means which nature directs us to employ on ſuch occaſions, is

not to ſuſpend the power of volition but to ſuſpend the exertion of thoſe powers whoſe exerciſe depends on volition. If it were neceſſary that volition ſhould be ſuſpended before we fall aſleep, it would be impoſſible for us, by our own efforts, to haſten the moment of reſt. The very ſuppoſition of ſuch efforts is abſurd; for it implies a continued will to ſuſpend the acts of the will.

According to the foregoing doctrine, with reſpect to the ſtate of the mind in ſleep, the effect which is produced on our mental operations, is ſtrikingly analogous to that which is produced on our bodily powers. From the obſervation which have been already made, it is manifeſt, that in ſleep, the body is, in a very inconſiderable degree, if at all, ſubject to our command. The vital and involuntary motions, however, ſuffer no interruption, but go on as when we are awake, in conſequence of the operation of ſome cauſes unknown to us. In like manner, it would appear, that thoſe operations of the mind which depend on our volition are ſuſpended; while certain other operations are, at leaſt occaſionally, carried on. This analogy naturally ſuggeſts the idea, that *all* our mental operations, which are independent of our will, may continue during ſleep; and that the phenonomena of dreaming may, perhaps, be produced by theſe, diverſified in their apparent effects, in conſequence of the ſuſpenſion of our voluntary powers.

If the appearances which the mind exhibits during ſleep, are found to be explicable on this general principle, it will poſſeſs all the evidence which the nature of the ſubject admits of.

It was formerly ſhewn, that the train of thought in the mind does not depend *immediately* on our will, but is regulated by certain general laws of aſſociation. At the ſame time, it appeared, that among the various ſubjects which thus ſpontaneouſly preſent themſelves to our notice, we have the power of

ſinging out any one that we chuſe to conſider, and of making it a particular object of attention; and that, by doing ſo, we not only can ſtop the train that would otherwiſe have ſucceeded, but frequently can divert the current of our thoughts into a new channel. It alſo appeared, that we have a power (which may be much improved by exerciſe) of recalling paſt occurrences to the memory, by a voluntary effort of the recollection.

The indirect influence which the mind thus poſſeſſes over the train of its thoughts is ſo great, that during the whole time we are awake, excepting in thoſe caſes in which we fall into what is called a reverie, and ſuffer our thoughts to follow their natural courſe, the order of their ſucceſſion is always regulated more or leſs by the will. The will, indeed, in regulating the train of thought, can operate only (as I already ſhewed) by availing itſelf of the eſtabliſhed laws of aſſociation; but ſtill it has the power of rendering this train very different from what it would have been, if theſe laws had taken place without its interference.

From theſe principles, combined with the general fact which I have endeavoured to eſtabliſh with reſpect to the ſtate of the mind in ſleep, two obvious conſequences follow: Firſt, That when we are in this ſituation, the ſucceſſion of our thoughts, in ſo far as it depends on the laws of aſſociation, may be carried on by the operation of the ſame unknown cauſes by which it is produced while we are awake; and, Secondly, that the order of our thoughts, in theſe two ſtates of the mind muſt be very different; inaſmuch as, in the one, it depends ſolely on the laws of aſſociation; and in the other, on theſe laws combined with our own voluntary exertions.

In order to aſcertain how far theſe concluſions are agreeable to truth, it is neceſſary to compare them with the known phenomena dreaming. For which purpoſe I ſhall endeavor to ſhew, firſt that

the ſucceſſion of our thoughts in ſleep, is regulated by the ſame general laws of aſſociation, to which it is ſubjected while we are awake; and, ſecondly, that the circumſtances which diſcriminate dreaming from our waking thoughts, are ſuch as muſt neceſſarily ariſe from the ſuſpenſion of the influence of the will.

I. That the ſucceſſion of our thoughts in ſleep, is regulated by the ſame general laws of aſſociation, which influence the mind while we are awake, appears from the following conſideration.

1. Our dreams are frequently ſuggeſted to us by bodily ſenſations: and with theſe, it is well known, from what we experience while awake, that particular ideas are frequently very ſtrongly aſſociated. I have been told by a friend, that, having occaſion, in conſequence of an indiſpoſition, to apply a bottle of hot water to his feet when he went to bed, he dreamed that he was making a journey to the top of mount Ætna, and that he found the heat of the ground almoſt inſupportable. Another perſon, having a bliſter applied to his head, dreamed that he was ſcalped by a party of Indians. I believe every one who is in the habit of dreaming, will recollect inſtances, in his own caſe, of a ſimilar nature.

2. Our dreams are influenced by the prevailing temper of the mind; and vary in their complexion according as our habitual diſpoſition, at the time, inclines us to cheerfulneſs or to melancholy. Not that this obſervation holds without exception; but it holds ſo generally, as muſt convince us that the ſtate of our ſpirits has ſome effect on our dreams, as well as on our waking thoughts. Indeed, in the latter caſe, no leſs than in the former, this effect may be counteracted, or modified, by various other circumſtances.

After having made a narrow eſcape from any alarming danger, we are apt to awake, in the courſe

of our ſleep, with ſudden ſtartings; imagining that we are drowning, or on the brink of a precipice. A ſevere misfortune, which has affected the mind deeply influences our dreams in a ſimilar way; and ſuggeſts to us a variety of adventures, analogous, in ſome meaſure, to that event from which our diſtreſs ariſes. Such, according to Virgil, were the dreams of the forſaken Dido.

"——— Agit ipſe furentem,
"In ſomnis ferus Æneas; ſemperque relinqui,
"Sola ſibi; ſemper longam incomitata videtur,
"Ire viam, et Tyrios deſertâ quærere terrâ."

3. Our dreams are influenced by our prevailing habits of aſſociation while awake.

In a former part of this work, I conſidered the extent of that power which the mind may acquire over the train of its thoughts; and I obſerved, that thoſe intellectual diverſities among men, which we commonly refer to peculiarities of genius, are, at leaſt in a great meaſure, reſolvable into differences in their habits of aſſociation. One man poſſeſſes a rich and beautiful fancy, which is at all times obedient to his will. Another poſſeſſes a quickneſs of recollection, which enables him, at a moment's warning, to bring together all the reſults of his paſt experience, and of his paſt reflections, which can be of uſe for illuſtrating any propoſed ſubject. A third can, without effort, collect his attention to the moſt abſtract queſtions in philoſophy; can perceive at a glance, the ſhorteſt and moſt effectual proceſs for arriving at the truth; and can baniſh from his mind every extraneous idea, which fancy or caſual aſſociation may ſuggeſt, to diſtract his thoughts, or to miſlead his judgment. A fourth unites all theſe powers in a capacity of perceiving truth with an almoſt intuitive rapidity; and in an eloquence which enables him to command, at pleaſure, whatever his memory and his fancy can ſupply, to illuſtrate and

o adorn it. The occaſional exerciſe which ſuch nen make of their powers, may undoubtedly be aid, in one ſenſe, to be unpremeditated or unſtud-ed; but they all indicate previous *habits* of medi-ation or ſtudy, as unqueſtionably, as the dexterity of the expert accountant, or the rapid expoſition of he profeſſional muſician.

From what has been ſaid, it is evident, that a rain of thought which in one man, would require painful effort of ſtudy, may, in another, be almoſt pontaneous: nor is it to be doubted, that the rev-eries of ſtudious men, even when they allow, as much as they can, their thoughts to follow their own courſe, are more or leſs connected together by thoſe principles of aſſociation, which their favourite purſuits tend more particularly to ſtrengthen.

The influence of the ſame habits may be traced diſtinctly in ſleep. There are probably few mathe-maticians, who have not dreamed of an intereſting problem, and who have not even fancied that they were proſecuting the inveſtigation of it with much ſucceſs. They whoſe ambition leads them to the ſtudy of eloquence, are frequently conſcious, during ſleep, of a renewal of their daily occupations; and ſometimes feel themſelves poſſeſſed of a fluency of ſpeech, which they never experienced before. The Poet, in his dreams, is tranſported into Elyſium, and leaves the vulgar and unſatisfactory enjoyments of humanity, to dwell in thoſe regions of enchant-ment and rapture, which have been created by the divine imaginations of Virgil and of Taſſo.

" And hither Morpheus ſent his kindeſt dreams,
" Raiſing a world of gayer tinct and grace;
" O'er which were ſhadowy caſt Elyſian gleams,
" That play'd in waving lights, from place to place,
" And ſhed a roſeate ſmile on Nature's face.
" Not Titian's pencil e'er could ſo array,
" So fleece with clouds the pure etherial ſpace;
" Nor could it e'er ſuch melting forms diſplay,
" As looſe on flowery beds all languiſhingly lay.
" No, fair illuſions! artful phantoms, no!
" My muſe will not attempt your fairy land:

"She has no colours, that like your's can glow;
"To catch your vivid ſcenes, too groſs her hand."*

As a farther proof that the ſucceſſion of our thoughts in dreaming, is influenced by our prevailing habits of aſſociation: it may be remarked, that the ſcenes and occurrences which moſt frequently preſent themſelves to the mind while we are aſleep, are the ſcenes and occurrences of childhood and early youth. The facility of aſſociation is then much greater than in more advanced years; and although during the day, the memory of the events thus aſſociated, may be baniſhed by the objects and purſuits which preſs upon our ſenſes, it retains a more permanent hold of the mind than any of our ſubſequent acquiſitions; and like the knowledge which we poſſeſs of our mother tongue, is, as it were, interwoven and incorporated with all its moſt eſſential habits. Accordingly, in old men, whoſe thoughts are, in a great meaſure, diſengaged from the world, the tranſactions of their middle age, which once ſeemed ſo important, are often obliterated; while the mind dwells, as in a dream, on the ſports and the companions of their infancy.

I ſhall only obſerve farther, on this head, that in our dreams, as well as when awake, we occaſionally make uſe of words as an inſtrument of thought. Such dreams, however, do not affect the mind with ſuch emotions of pleaſure and of pain, as thoſe in which the imagination is occupied with particular objects of ſenſe. The effect of philoſophical ſtudies, in habituating the mind to the almoſt conſtant employment of this inſtrument, and of conſequence, its effect in weakening the imagination, was formerly remarked. If I am not miſtaken, the influence of theſe circumſtances may alſo be traced in the hiſtory of our dreams; which, in youth, commonly in-

* Caſtle of Indolence.

volve, in a much greater degree, the exercise of imagination; and affect the mind with much more powerful emotions, than when we begin to employ our maturer faculties in more general and abstract speculations.

From these different observations, we are authorised to conclude, that the same laws of association which regulate the train of our thoughts while we are awake, continue to operate during sleep. I now proceed to consider, how far the circumstances which discriminate dreaming from our waking thoughts, correspond with those which might be expected to result from the suspension of the influence of the will.

1. If the influence of the will be suspended during sleep, all our voluntary operations, such as recollection, reasoning, &c. must also be suspended.

That this really is the case, the extravagance and inconsistency of our dreams are sufficient proofs. We frequently confound together times and places the most remote from each other; and, in the course of the same dream, conceive the same person as existing in different parts of the world. Sometimes we imagine ourselves conversing with a dead friend, without remembering the circumstance of his death, although, perhaps, it happened but a few days before, and affected us deeply. All this proves clearly, that the subjects which then occupy our thoughts, are such as present themselves to the mind spontaneously; and that we have no power of employing our reason, in comparing together the different parts of our dreams; or even of exerting an act of recollection, in order to ascertain how far they are consistent and possible.

The processes of reasoning, in which we sometimes fancy ourselves to be engaged during sleep, furnish no exception to the foregoing observation; for although every such process, the time we form it, implies volition; and, in particular, implies a recollection of the premises, till we arrive at the conclu

ſion ; yet when a number of truths have been often preſented to us, as neceſſarily connected with each other, this ſeries may afterwards paſs through the mind according to the laws of aſſociation, without any more activity on our part, than in thoſe trains of thought which are the moſt looſe and incoherent. Nor is this mere theory. I may venture to appeal to the conſciouſneſs of every man accuſtomed to dream, whether his reaſonings during ſleep do not ſeem to be carried on without any exertion of his will ; and with a degree of facility, of which he was never conſcious while awake. Mr. Addiſon, in one of his Spectators, has made this obſervation ; and his teſtimony, in the preſent inſtance, is of the greater weight, that he had no particular theory on the ſubject to ſupport. "There "is not," (ſays he,) "a more painful action of the "mind than invention, yet in dreams, it works "with that eaſe and activity, that we are not ſen- "ſible when the faculty is employed. For inſtance, "I believe every one, ſome time or other, dreams "that he is reading papers, books, or letters; in "which caſe the invention prompts ſo readily, that "the mind is impoſed on, and miſtakes its own "ſuggeſtions for the compoſition of another."*

2. If the influence of the will during ſleep be ſuſpended, the mind will remain as paſſive, while its thoughts change from one ſubject to another, as it does during our waking hours, while different perceptible objects are preſented to our ſenſes.

Of this paſſive ſtate of the mind in our dreams, it is unneceſſary, to multiply proofs ; as it has always been conſidered as one of the moſt extraordinary circumſtances with which they are accompanied. If our dreams, as well as our waking thoughts, were ſubject to the will, is it not natural to conclude, that in the one caſe, as well as in the other, we

* No. 487.

would endeavour to baniſh, as much as we could, every idea which had a tendency to diſturb us; and detain thoſe only which we found to be agreeable? So far, however, is this power over our thoughts from being exerciſed, that we are frequently oppreſſed in ſpite of all our efforts to the contrary, with dreams which affect us with the moſt painful emotions. And, indeed, it is a matter of vulgar remark, that our dreams are, in every caſe, involuntary on our part; and that they appear to be obtruded on us by ſome external cauſe. This fact appeared ſo unaccountable to the late Mr. Baxter, that it gave riſe to his very whimſical theory, in which he aſcribes dreams to the immediate influence of ſeparate ſpirits on the mind.

3. If the influence of the will be ſuſpended during ſleep, the *conceptions* which we then form of ſenſible objects, will be attended with a belief of their real exiſtence, as much as the *perception* of the ſame objects is while we are awake.

In treating of the power of conception, I formerly obſerved, that our belief of the ſeparate and independent exiſtence of the objects of our perceptions, is the reſult of experience; which teaches us that theſe perceptions do not depend on our will. If I open my eyes, I cannot prevent myſelf from ſeeing the proſpect before me. The caſe is different with reſpect to our conceptions. While they occupy the mind, to the excluſion of every thing elſe, I endeavoured to ſhew, that they are always accompanied with belief; but as we can baniſh them from the mind, during our waking hours, at pleaſure; and as the momentary belief which they produce, is continually checked by the ſurrounding objects of our perceptions, we learn to conſider them as fictions of our own creation; and, excepting in ſome accidental caſes, pay no regard to them in the conduct of life. If the doctrine, however, formerly ſtated with reſpect to conception be juſt, and if, at the ſame time

it be allowed, that ſleep ſuſpends the influence of the will over the train of our thoughts, we ſhould naturally be led to expect, that the ſame belief which accompanies perception while we are awake, ſhould accompany the conceptions which occur to us in our dreams. It is ſcarcely neceſſary for me to remark, how ſtrikingly this concluſion coincides with acknowledged facts.

May it not be conſidered as ſome confirmation of the foregoing doctrine, that when opium fails in producing complete ſleep, it commonly produces *one* of the effects of ſleep, by ſuſpending the activity of the mind, and throwing it into a reverie; and that while we are in this ſtate, our conceptions frequently affect us nearly in the ſame manner, as if the objects conceived were preſent to our ſenſes?*

Another circumſtance with reſpect to our conceptions during ſleep, deſerves our notice. As the ſubjects which we then think upon, occupy the mind excluſively; and as the attention is not diverted by the objects of our external ſenſes, our conceptions muſt be proportionably lively and ſteady. Every perſon knows how faint the conception is which we form of any thing, with our eyes open, in compariſon of what we can form with our eyes ſhut: and that, in proportion as we can ſuſpend the exerciſe of all our other ſenſes, the livelineſs of our conception increaſes. To this cauſe is to be aſcribed, in part, the effect which the dread of ſpirits in the dark, has on ſome perſons, who are fully convinced in ſpeculation, that their apprehenſions are groundleſs; and to this alſo is owing the effect of an accidental perception, in giving them a momentary relief from their terrors. Hence the remedy which nature points out to us, when we find ourſelves overpowered by imagination. If every thing around us be ſilent, we endeavour to create a noiſe, by ſpeaking

* See the Baron De Tott's Account of the Opium-takers at Conſtantinople.

aloud, or beating with our feet; that is, we ſtrive to divert the attention from the ſubjects of our imagination, by preſenting an object to our powers of perception. The concluſion which I draw from theſe obſervation is, that, as there is no ſtate of the body in which our perceptive powers are ſo totally unemployed as in ſleep, it is natural to think, that the objects which we conceive or imagine, muſt then make an impreſſion on the mind, beyond compariſon greater, than any thing of which we can have experience while awake.

The phenomena which we have hitherto explained, take place when ſleep ſeems to be complete; that is, when the mind loſes its influence over *all* thoſe powers whoſe exerciſe depends on its will. There are, however, many caſes in which ſleep ſeems to be partial; that is, when the mind loſes its influence over *ſome* powers, and retains it over others. In the caſe of the *ſomnambuli*, it retains its power over the limbs, but it poſſeſſes no influence over its own thoughts, and ſcarcely any over the body; excepting thoſe particular members of it which are employed in walking. In madneſs, the power of the will over the body remains undiminiſhed, while its influence in regulating the train of thought is in a great meaſure ſuſpended; either in conſequence of a particular idea, which engroſſes the attention, to the excluſion of every thing elſe, and which we find it impoſſible to baniſh by our efforts; or in conſequence of our thoughts ſucceeding each other with ſuch rapidity, that we are unabled to ſtop the train. In both of theſe kinds of madneſs, it is worthy of remark, that the conceptions or imaginations of the mind becoming independent of our will, they are apt to be miſtaken for actual perceptions, and to affect us in the ſame manner.

By means of this ſuppoſition of a partial ſleep, any apparent exceptions which the hiſtory of dreams

may afford to the general principles already ſtated, admit of an eaſy explanation.

Upon reviewing the foregoing obſervations, it does not occur to me, that I have in any inſtance tranſgreſſed thoſe rules of philoſophiſing, which, ſince the time of Newton, are commonly appealed to, as the teſts of ſound inveſtigation. For, in the firſt place, I have not ſuppoſed any cauſes which are not known to exiſt; and, ſecondly, I have ſhewn that the phenomena under our conſideration are neceſſary conſequences of the cauſes to which I have referred them. I have not ſuppoſed, that the mind acquires in ſleep, any new faculty of which we are not conſcious while awake; but only (what we know to be a fact) that it retains ſome of its powers, while the exerciſe of others is ſuſpended: and I have deduced ſynthetically, the known phenomena of dreaming, from the operation of a particular claſs of our faculties, uncorrected by the operation of another. I flatter myſelf, therefore, that this inquiry will not only throw ſome light on the ſtate of the mind in ſleep; but that it will have a tendency to illuſtrate the mutual adaption and ſubſerviency, which exiſts among the different parts of our conſtitution, when we are in complete poſſeſſion of all the faculties and principles which belong to our nature.*

* See note [O.]

CHAPTER FIFTH.

PART SECOND.

OF THE INFLUENCE OF ASSOCIATION ON THE INTELLECTUAL AND ON THE ACTIVE POWERS.

SECTION I.

Of the Influence of caſual Aſſociation on our Speculative Concluſions.

THE aſſociation of ideas has a tendency to warp our ſpeculative opinions, chiefly in the three following ways:

Firſt, by blending together in our apprehenſions, things which are really diſtinct in their nature; ſo as to introduce perplexity and error into every proceſs of reaſoning in which they are involved.

Secondly, by miſleading us in thoſe anticipations of the future from the paſt, which our conſtitution diſpoſes us to form, and which are the great foundation of our conduct in life.

Thirdly, by connecting in the mind erroneous opinions, with truths which irreſiſtibly command our aſſent, and which we feel to be of importance to human happineſs.

A ſhort illuſtration of theſe remarks, will throw light on the origin of various prejudices; and may perhaps, ſuggeſt ſome practical hints with reſpect to the conduct of the underſtanding.

I. I formerly had occaſion to mention ſeveral inſtances of very intimate aſſociations, formed between two ideas which have no neceſſary connexion with each other. One of the moſt remarkable is, that which exiſts in every perſon's mind between the notions of *colour* and of *extenſion*. The former of

theſe words expreſſes (at leaſt in the ſenſe in which we commonly employ it) a ſenſation in the mind; the latter denotes a quality of an external object; ſo that there is, in fact, no more connexion between the two notions, than between thoſe of pain and of ſolidity;* and yet, in conſequence of our always perceiving extenſion, at the ſame time at which the ſenſation of colour is excited in the mind, we find it impoſſible to think of that ſenſation, without conceiving extenſion along with it.

Another intimate aſſociation is formed in every mind between the ideas of *ſpace* and of *time*. When we think of an interval of duration, we always conceive it as ſomething analogous to a line, and we apply the ſame language to both ſubjects. We ſpeak of a *long* and *ſhort time*, as well as of a *long* and *ſhort diſtance;* and we are not conſcious of any metaphor in doing ſo. Nay, ſo very perfect does the analogy appear to us, that Boſcovich mentions it as a curious circumſtance, that extenſion ſhould have three dimenſions, and duration only one.

This apprehended analogy ſeems to be founded wholly on an aſſociation between the ideas of ſpace and of time, ariſing from our always meaſuring the one of theſe quantities by the other. We meaſure time by motion, and motion by extenſion. In an hour, the hand of the clock moves over a certain ſpace; in two hours, over double the ſpace; and ſo on. Hence the ideas of ſpace and time become very intimately united, and we apply to the latter the words, *long* and *ſhort*, *before* and *after*, in the ſame manner as to the former.

The apprehended analogy between the relation which the different notes in the ſcale of muſic bear to each other, and the relation of ſuperiority and inferiority, in reſpect of poſition, among material objects, ariſes alſo from an accidental aſſociation of ideas.

* See Note [P.]

What this aſſociaton is founded upon, I ſhall not take upon me to determine; but that it is the effect of accident, appears clearly from this, that it has not only been confined to particular ages and nations; but is the very reverſe of an aſſociation which was once equally prevalent. It is obſerved by Dr. Gregory, in the preface to his edition of Euclid's works, that the more ancient of the Greek writers looked upon grave ſounds as high, and acute ones as low; and that the preſent mode of expreſſion on that ſubject, was an innovation introduced at a later period.*

In the inſtances which have now been mentioned, our habits of combining the notions of two things, becomes ſo ſtrong, that we find it impoſſible to think of the one, without thinking at the ſame time of the other. Various other examples of the ſame ſpecies of combination, although, perhaps not altogether ſo ſtriking in degree, might eaſily be collected from the ſubjects about which our metaphyſical ſpeculations are employed. The *ſenſations*, for inſtance, which are excited in the mind by external objects, and the *perceptions* of material qualities which follow theſe ſenſations, are to be diſtinguiſhed from each other only by long habits of patient reflection. A clear conception of this diſtinction may be regarded as the key to all Dr. Reid's reaſonings concerning the proceſs of nature in perception; and till it has once been rendered familiar to the reader, a great part of his writings muſt appear unſatisfactory and obſcure.—In truth, our progreſs in the philoſophy of the human mind depends much more on that ſevere and diſcriminating judgment, which enables us to ſeparate ideas which nature or habit have intimately combined, than on acuteneſs of reaſoning or fertility of invention. And hence it is, that metaphyſical ſtudies

* See Note [Q.]

are the beſt of all preparations for thoſe philoſophical purſuits, which relate to the conduct of life. In none of theſe do we meet with caſual combinations ſo intimate and indiſſoluble as thoſe which occur in metaphyſics; and he who has been accuſtomed to ſuch diſcriminations as this ſcience requires, will not eaſily be impoſed upon by that confuſion of ideas, which warps the judgments of the multitude, in moral, religious, and political inquiries.

From the facts which have now been ſtated, it is eaſy to conceive the manner in which the aſſociation of ideas has a tendedcy to miſlead the judgment, in the firſt of the three caſes already enumerated. When two ſubjects of thought are ſo intimately connected together in the mind, that we find it ſcarcely poſſible to conſider them apart; it muſt require no common efforts of attention, to conduct any proceſs of reaſoning which relates to either. I formerly took notice of the errors to which we are expoſed, in conſequence of the ambiguity of *words*; and of the neceſſity of frequently checking and correcting our general reaſonings, by means of particular examples; but in the caſes to which I allude at preſent, there is (if I may uſe the expreſſion) an ambiguity of *things*; ſo that even when the mind is occupied about particulars, it finds it difficult to ſeparate the proper objects of its attention from others, with which it has been long accuſtomed to blend them. The caſes, indeed, in which ſuch obſtinate and invincible aſſociations are formed among different ſubjects of thought, are not very numerous, and occur chiefly in our metaphyſical reſearches; but in every mind, caſual combinations, of an inferior degree of ſtrength, have an habitual effect in diſturbing the intellectual powers, and are not to be conquered without perſevering exertions, of which few men are capable. The obvious effects which this tendency to combination pro-

duces on the judgment, in confounding together thoſe ideas which it is the province of the metaphyſician to diſtinguiſh, ſufficiently illuſtrate the mode of its operation, in thoſe numerous inſtances, in which its influence, though not ſo complete and ſtriking, is equally real, and far more dangerous.

II. The aſſociation of ideas is a ſource of ſpeculative error, by miſleading us in thoſe anticipations of the future from the paſt, which are the foundation of our conduct in life.

The great object of philoſophy, as I have already remarked more than once, is to aſcertain the laws which regulate the ſucceſſion of events, both in the phyſical and moral worlds; in order that, when called upon to act in any particular combination of circumſtances, we may be enabled to anticipate the probable courſe of nature from our paſt experience, and to regulate our conduct accordingly.

As a knowledge of the eſtabliſhed connexions among events, is the foundation of ſagacity and of ſkill, both in the practical arts, and in the conduct of life, nature has not only given to all men a ſtrong diſpoſition to remark, with attention and curioſity, thoſe phenomena which have been obſerved to happen nearly at the ſame time; but has beautifully adapted to the uniformity of her own operations, the laws of aſſociation in the human mind. By rendering *contiguity in time* one of the ſtrongeſt of our aſſociating principles, ſhe has conjoined together in our thoughts, the ſame events which we have found conjoined in our experience, and has thus accommodated (without any effort on our part) the order of our ideas to that ſcene in which we are deſtined to act.

The degree of experience which is neceſſary for the preſervation of our animal exiſtence, is acquired by all men without any particular efforts of ſtudy. The laws of nature, which it is moſt material for us to know, are expoſed to the immediate obſervation

of our ſenſes; and eſtabliſh, by means of the principle of aſſociation, a correſponding order in our thoughts, long before the dawn of reaſon and reflection; or at leaſt long before that period of childhood, to which our recollection afterwards extends.

This tendency of the mind to aſſociate together events which have been preſented to it nearly at the ſame time; although, on the whole, it is attended with infinite advantages, yet, like many other principles of our nature, may occaſionally be a ſource of inconvenience, unleſs we avail ourſelves of our reaſon and of our experience, in keeping it under proper regulation. Among the various phenomena which are continually paſſing before us, there is a great proportion, whoſe vicinity in time does not indicate a conſtancy of conjunction; and unleſs we be careful to make a diſtinction between two claſſes of connexions, the order of our ideas will be apt to correſpond with the one as well as with the other; and our enlightened experience of the paſt, will fill the mind, in numberleſs inſtances, with vain expectations, or with groundleſs alarms, concerning the future. This diſpoſition to confound together accidental and permanent connexions, is one great ſource of popular ſuperſtitions. Hence the regard which is paid to unlucky days; to unlucky colours; and to the influence of the planets; apprehenſions which render human life, to many, a continued ſeries of abſurd terrors. Lucretius compares them to thoſe which children feel, from an idea of the exiſtence of ſpirits in the dark:

"Ac veluti pueri trepidant, atque omnia cœcis
"In tenebris metuunt, ſic nos, in luce timemus,
"Interdum nihilo quæ ſunt metuenda magis."

Such ſpectres can be diſpelled by the light of philoſophy only; which, by accuſtoming us to trace eſtabliſhed connexions, teaches us to deſpiſe thoſe which are caſual; and, by giving a proper direction

to that bias of the mind which is the foundation of ſuperſtition, prevents it from leading us aſtray.

In the inſtances which we have now been conſidering, events come to be combined together in the mind, merely from the accidental circumſtance of their contiguity in time, at the moment when we perceived them. Such combinations are confined, in a great meaſure, to uncultivated and unenlightened minds; or to thoſe individuals who, from nature or education have a more than ordinary facility of aſſociation. But there are other accidental combinations, which are apt to lay hold of the moſt vigorous underſtandings; and from which, as they are the natural and neceſſary reſult of a limited experience, no ſuperioriy of intellect is ſufficient to preſerve a philoſopher in the infancy of phyſical ſcience.

As the connexions among phyſical events are diſcovered to us by experience alone, it is evident, that when we ſee a phenomenon preceded by a number of different circumſtances, it is impoſſible for us to determine, by any reaſoning *a priori*, which of theſe circumſtances are to be regarded as the *conſtant*, and which as the *accidental*, antecedents of the effect. If, in the courſe of our experience, the ſame combination of circumſtances is always exhibited to us without any alteration, and is invaribly followed by the ſame reſult, we muſt forever remain ignorant, whether this reſult be connected with the whole combination, or with one or more of the circumſtances combined; and therefore, if we are anxious, upon any occaſion, to produce a ſimilar effect, the only rule that we can follow with perfect ſecurity, is to intimate in every particular circumſtance the combination which we have ſeen. It is only where we have an opportunity of ſeparating ſuch circumſtances from each other; of combining them variouſly together; and of obſerving the effects which reſult from theſe different experiments,

that we can aſcertain with preciſion the general laws of nature, and ſtrip phyſical cauſes of their accidental and uneſſential concomitants.

To illuſtrate this by an example. Let us ſuppoſe that a ſavage,, who in a particular inſtance, had found himſelf relieved of ſome bodily indiſpoſition by a draught of cold water, is a ſecond time afflicted with a ſimilar diſorder, and is deſirous to repeat the ſame remedy. With the limited degree of experience which we have here ſuppoſed him to poſſeſs, it would be impoſſible for the acuteſt philoſopher, in his ſituation, to determine whether the cure was owing to the water which was drunk, to the cup in which it was contained, to the fountain from which it was taken, to the particular day of the month or to the particular age of the moon. In order, therefore, to enſure the ſucceſs of the remedy, he will very naturally, and very wiſely, copy, as far as he can recollect, every circumſtance which accompanied the firſt application of it. He will make uſe of the ſame cup, draw the water from the ſame fountain, hold his body in the ſame poſture, and turn his face in the ſame direction; and thus all the accidental circumſtances in which the firſt experment was made, will come to be aſſociated equally in his mind with the effect produced. The fountain from which the water was drawn, will be conſidered as poſſeſſed of particular virtues; and the cup from which it was drunk, will be ſet apart from vulgar uſes, for the ſake of thoſe who may afterwards have occaſion to apply the remedy. It is the enlargement of experience alone, and not any progreſs in the art of reaſoning, which can cure the mind of theſe aſſociations, and free the practice of medicine from thoſe ſuperſtitious obſervances with which we always find it incumbered among rude nations.

Many inſtances of this ſpecies of ſuperſtition might be produced from the works of philoſophers who have flouriſhed in more enlightened ages. In parti-

cular, many might be produced from the writings of thoſe phyſical inquirers who immediately ſucceeded to Lord Bacon; and who, convinced by his arguments, of the folly of all reaſonings *a priori*, concerning the laws of nature, were frequently apt to run into the oppoſite extreme, by recording every circumſtance, even the moſt ludicrous, and the moſt obviouſly ineſſential, which attended their experiments.*

The obſervations which have been hitherto made relate entirely to aſſociations founded on caſual combinations of *material* objects, or of *phyſical* events. The effects which theſe aſſociations produce on the underſtanding, and which are ſo palpable, that they cannot fail to ſtrike the moſt careleſs obſerver, will prepare the reader for the remarks I am now to make, on ſome analogous prejudices which warp our opinions on ſtill more important ſubjects.

As the eſtabliſhed laws of the material world, which have been exhibited to our ſenſes from our infancy, gradually accommodate to themſelves the order of our thoughts; ſo the moſt arbitrary and capricious inſtitution and cuſtoms, by a long and conſtant and excluſive operation on the mind, acquires ſuch an influence in forming the intellectual habits, that every deviation from them not only produces ſurprize, but is apt to excite ſentiments of contempt and of ridicule. A perſon who has never extended his views beyond that ſociety of which he himſelf is a member, is apt to conſider many peculiarities in the manners and cuſtoms of

* The reader will ſcarcely believe, that the following cure for a dyſentery is copied *verbatim* from the works of Mr. Boyle:

"Take the thigh-bone of a hanged man, (perhaps another may ſerve, but this was ſtill made uſe of,) calcine it to "whiteneſs and having purged the patient with an antimonial medicine, give him one dram of this white powder for "one doſe in ſome good cordial, whether conſerve or liquor."

his countrymen as founded on the univerſal principles of the human conſtitution; and when he hears of other nations, whoſe practices in ſimilar caſes are different, he is apt to cenſure them as unnatural, and to deſpiſe them as abſurd. There are two claſſes of men who have more particularly been charged with this weakneſs; thoſe who are placed at the bottom, and thoſe who have reached the ſummit of the ſcale of refinement; the former from ignorance, and the latter from national vanity.

For curing this claſs of prejudices, the obvious expedient which nature points out to us, is to extend our acquaintance with human affairs, either by means of books, or of perſonal obſervation. The effects of travelling, in enlarging and in enlightening the mind, are obvious to our daily experience; and ſimilar advantages may be derived (although, perhaps, not in an equal degree) from a carful ſtudy of the manners of paſt ages, or of diſtant nations as they are deſcribed by the hiſtorian. In making however, theſe attempts for our intellectual improvement, it is of the utmoſt conſequence to us to vary, to a conſiderable degree, the objects of our attention; in order to prevent any danger of our acquiring an excluſive preference for the caprices of any one people, whoſe political ſituation, or whoſe moral character, may attach us to them as faultleſs models for our imitation. The ſame weakneſs and verſatility of mind; the ſame facility of aſſociation, which, in the caſe of a perſon who has never extended his views beyond his own community, is a ſource of national prejudice and of national bigotry, renders the mind, when forced into new ſituations eaſily ſuſceptible of other prejudices no leſs capricious; and frequently prevents the time, which is devoted to travelling, or to ſtudy, from being ſubſervient to any better purpoſe, than an importation of foreign faſhions, or a ſtill more ludicrous imitation of ancient follies.

The philoſopher whoſe thoughts dwell habitually not merely upon what is, or what has been, but upon what is beſt and moſt expedient for mankind; who, to the ſtudy of books, and the obſervation of manners, has added a careful examination of the principles of the human conſtitution, and of thoſe which ought to regulate the ſocial order; is the only perſon who is effectually ſecured againſt both the weakneſſes which I have deſcribed. By learning to ſeparate what is eſſential to morality and to happineſs, from thoſe adventitious trifles which it is the province of faſhion to direct, he is equally guarded againſt the follies of national prejudice, and a weak deviation, in matters of indifference, from eſtabliſhed ideas. Upon his mind, thus occupied with important ſubjects of reflection, the fluctuating caprices and faſhions of the times loſe their influence; while accuſtomed to avoid the ſlavery of local and arbitrary habits, he poſſeſſes, in his own genuine ſimplicity of character, the ſame power of accommodation to external circumſtances, which men of the world derive from the pliability of their taſte, and the verſatility of their manners. As the order, too, of his ideas is accommodated, not to what is caſually preſented from without, but to his own ſyſtematical principles his aſſociations are ſubject only to thoſe ſlow and pleaſing changes, which ariſe from his growing light and improving reaſon; and, in ſuch a period of the world as the preſent, when the preſs not only excludes the poſſibility of a retrogradation in human affairs, but operates with an irreſiſtible though gradual progreſs, in undermining prejudices and in extending the triumphs of philoſophy, he may reaſonably indulge the hope, that ſociety will every day approach nearer and nearer to what he wiſhes it to be. A man of ſuch a character, inſtead of looking back on the paſt with regret, finds himſelf (if I may uſe the expreſſion) more at home, in the world, and more ſatisfied with its order, the longer he lives in

it. The melancholy contraſts which old men are ſometimes diſpoſed to ſtate between its condition, when they are about to leave it, and that in which they found it, at the commencement of their career, ariſes, in moſt caſes, from the unlimited influence which in their early years they had allowed to the faſhions of the times, in the formation of their characters. How different from thoſe ſentiments and proſpects, which dignified the retreat of Turgot, and brightened the declining years of Franklin!

The querulous temper, however, which is incident to old men, although it renders their manners diſagreeable in the intercourſe of ſocial life, is by no means the moſt contemptible form in which the prejudices I have now been deſcribing, may diſplay their influence. Such a temper indicates at leaſt a certain degree of obſervation, in marking the viciſſitudes of human affairs, and a certain degree of ſenſibility in early life, which has connected pleaſing ideas with the ſcenes of infancy and youth. A very great proportion of mankind are, in a great meaſure, incapable either of the one or of the other; and, ſuffering themſelves to be carried quietly along with the ſtream of faſhion, and finding their opinions and their feelings always in the ſame relative ſituation to the fleeting objects around them, are perfectly unconſcious of any progreſs in their own ideas, or of any change in the manners of their age. In vain the philoſopher reminds them of the opinion they yeſterday held; and forewarns them from the ſpirit of the times, of thoſe which they are to hold to-morrow. The opinions of the preſent moment ſeem to them to be inſeparable from their conſtitution; and when the proſpects are realized, which they lately treated as chimerical, their minds are ſo gradually prepared for the event, that they behold it without any emotions of wonder or curioſity; and it is to the philoſopher alone, by whom it was predicted,

that it appears to furniſh a ſubject worthy of future reflexion.

The prejudices to which the laſt obſervations relate have their origin in that diſpoſition of our nature, which accommodates the order of our ideas, and our various intellectual habits, to whatever appearances have been long and familiarly preſented to the mind. But there are other prejudices which by being intimately aſſociated with the eſſential principles of our conſtitution, or with the original and univerſal laws of our belief, are incomparably more inveterate in their nature, and have a far more extenſive influence on human character and happineſs.

III. The manner in which the aſſociation of ideas operates in producing this third claſs of our ſpeculative errors, may be conceived, in part, from what was formerly ſaid concerning the ſuperſtitious obſervances, which are mixed with the practice of medicine among rude nations. As all the different circumſtances which accompanied the firſt adminiſtration of a remedy, come to be conſidered as eſſential to its future ſucceſs, and are blended together in our conceptions, without any diſcrimination of their relative importance; ſo, whatever tenets and ceremonies we have been taught to connect with the religious creed of our infancy, become almoſt a part of our conſtitution, by being indiſſolubly united with truths which are eſſential to happineſs, and which we are led to reverence and to love, by all the beſt diſpoſitions of the heart. The aſtoniſhment which the peaſant feels, when he ſees the rites of a religion different from his own, is not leſs, than if he ſaw ſome flagrant breach of the moral duties, or ſome direct act of impiety to God; nor is it eaſy for him to conceive, that there can be any thing worthy in a mind which treats with indifference, what awaken in his own breaſt all its beſt and ſublimeſt emotions. "Is it poſſible," (ſays the old and expiring Bramin, in one of Marmontel's tales,

to the young Engliſh officer who had ſaved the life of his daughter,) " is it poſſible, that he to whoſe " compaſſion I owe the preſervation of my child, " and who now ſoothes my laſt moments with the " conſolations of piety, ſhould not believe in the " God *Viſtnou*, and his nine metamorphoſes !"

What has now been ſaid on the nature of religious ſuperſtition, may be applied to many other ſubjects. In particular, it may be applied to thoſe political prejudices, which bias the judgment even of enlightened men in all countries of the world.

How deeply rooted in the human frame are thoſe important principles, which intereſt the good man in the proſperity of the world; and more eſpecially in the proſperity of that beloved community to which he belongs ! How ſmall, at the ſame time, is the number of individuals who, accuſtomed to contemplate one modification alone of the ſocial order, are able to diſtinguiſh the circumſtances which are eſſential to human happineſs, from thoſe which are indifferent or hurtful ! In ſuch a ſituation, how natural is it for a man of benevolence, to acquire an indiſcriminate and ſuperſtitious veneration for all the inſtitutions under which he has been educated; as theſe inſtitutions, however capricious and abſurd in themſelves, are not only familiariſed by habit to all his thoughts and feeling, but are conſecrated in his mind, by an indiſſoluble aſſociation with duties which nature recommends to his affections, and which reaſon commands him to fulfil. It is on theſe accounts that a ſuperſtitious zeal againſt innovation, both in religion and politics, where it is evidently grafted on piety to God, and good will to mankind, however it may excite the ſorrow of the more enlightened philoſopher, is juſtly entitled, not only to his indulgence, but to his eſteem and affection.

The remarks which have been already made, are ſufficient to ſhew, how neceſſary it is for us, in the

formation of our philoſophical principles, to examine with care all thoſe opinions, which in our early years we have imbibed from our inſtructors; or which are connected with our own local ſituation. Nor does the univerſality of an opinion among men who have received a ſimilar education, afford any preſumption in its favour; for, however great the deference is, which a wiſe man will always pay to common belief, upon thoſe ſubjects which have employed the unbiaſſed reaſon of mankind, he certainly owes it no reſpect, in ſo far as he ſuſpects it to be influenced by faſhion or authority. Nothing can be more juſt than the obſervation of Fontenelle, that "the number of thoſe who believe in a ſyſtem "already eſtabliſhed in the world, does not, in the "leaſt, add to its credibility; but that the number "of thoſe who doubt of it, has a tendency to di-"miniſh it."

The ſame remarks lead upon the other hand, to another concluſion of ſtill greater importance; that notwithſtanding the various falſe opinions which are current in the world, there are ſome truths, which are inſeparable from the human underſtanding, and by means of which, the errors of education in moſt inſtances, are enabled to take hold of our belief.

A weak mind, unaccuſtomed to reflexion, and which has paſſively derived its moſt important opinions from habit or from authority, when, in conſequence of a more enlarged intercourſe with the world, it finds, that ideas which it had been taught to regard as ſacred, are treated by enlightened and worthy men with ridicule, is apt to loſe its reverence for the fundamental and eternal truths on which theſe acceſſory ideas are grafted, and eaſily falls a prey to that ſceptical philoſophy, which teaches, that all the opinions, and all the principles of action by which mankind are governed, may be traced to the influence of education and example.

Amidſt the infinite variety of forms, however, which our verſatile nature aſſumes, it cannot fail to ſtrike an attentive obſerver, that there are certain indelible features common to them all. In one ſituation, we find good men attached to a republican form of government; in another, to a monarchy; but in all ſituations, we find them devoted to the ſervice of their country and of mankind, and diſpoſed to regard, with reverence and love, the moſt abſurd and capricious inſtitutions which cuſtom has led them to connect with the order of ſociety. The different appearances, therefore, which the political opinions and the political conduct of men exhibit, while they demonſtrate to what a wonderful degree human nature may be influenced by ſituation and by early inſtruction, evince the exiſtence of ſome common and original principles, which fit it for the political union, and illuſtrate the uniform operation of thoſe laws of aſſociation, to which, in all the ſtages of ſociety, it is equally ſubject.

Similar obſervations are applicable, and, indeed, in a ſtill more ſtriking degree, to the opinions of mankind on the important queſtions of religion and morality. The variety of ſyſtems which they have formed to themſelves concerning theſe ſubjects, has often excited the ridicule of the ſceptic and the libertine; but if, on the one hand, this variety ſhews the folly of bigotry, and the reaſonableneſs of mutual indulgence; the curioſity which has led men, in every ſituation, to ſuch ſpeculations, and the influence which their concluſions, however abſurd, have had on their character and their happineſs, prove, no leſs, clearly, on the other, that there muſt be ſome principles from which they all derive their origin; and invite the philoſopher to aſcertain what are theſe original and immutable laws of the human mind.

"Examine" (ſays Mr. Hume) "the religious "principles which have prevailed in the world. You

" will ſcarcely be perſuaded, that they are any " thing but ſick men's dreams; or, perhaps, will " regard them more as the playſome whimſies of " monkeys in human ſhape, than the ſerious, poſi- " tive, dogmatical aſſervations of a being, who dig- " nifies himſelf with the name of rational."—" To " oppoſe the torrent of ſcholaſtic religion by ſuch " feeble maxims as theſe, that it is impoſſible for " the ſame thing to be and not to be; that the " whole is greater than a part; and two and three " make five; is pretending to ſtop the ocean with " a bulruſh." But what is the inference to which we are led by theſe obſervations? Is it, (to uſe the words of this ingenious writer) " that the whole " is a riddle, an ænigma, an inexplicable myſtery; " and that doubt, uncertainty, and ſuſpenſe, appear " the only reſult of our moſt accurate ſcrutiny con- " cerning this ſubject?" Or ſhould not rather the melancholy hiſtories which he has exhibited of the follies and caprices of ſuperſtition, direct our atten- tion to thoſe ſacred and indelible characters on the human mind, which all theſe perverſions of reaſon are unable to obliterate; like that image of himſelf which Phidias wiſhed to perpetuate, by ſtamping it ſo deeply on the buckler of his *Minerva*; " ut ne- " mo delere poſſet aut divellere, qui totam ſtatuam " non imminueret."* In truth, the more ſtriking the contradictions, and the more ludicrous the cer- emonies to which the pride of human reaſon has thus been reconciled; the ſtronger is our evidence that religion has a foundation in the nature of man. When the greateſt of modern philoſophers declares that " he would rather believe all the fables in the " Legend, and the Talmud, and the Alcoran, than " that this univerſal frame is without mind;"† he has expreſſed the ſame feeling, which, in all ages

* Select Diſcourſes, by JOHN SMITH, p. 119. Cambridge, 1673.

† Lord BACON, in his Eſſays.

and nations, has led good men, unaccuſtomed to reaſoning, to an implicit faith in the creed of their infancy;—a feeling which affords an evidence of the exiſtence of the Deity, incomparably more ſtriking than if, unmixed with error and undebaſed by ſuperſtition, this moſt important of all principles had commanded the univerſal aſſent of mankind. Where are the other truths, in the whole circle of the ſciences which are ſo eſſential to human happineſs, as to procure an eaſy acceſs, not only for themſelves, but for whatever opinions may happen to be blended with them? Where are the truths ſo venerable and commanding, as to impart their ſublimity to every trifling memorial, which recals them to our remembrances; to beſtow ſolemnity and elevation on every mode of expreſſion by which they are conveyed; and which, in whatever ſcene they have habitually occupied the thoughts, conſecrate every object which it preſents to our ſenſes, and the very ground we have been accuſtomed to tread? To attempt to weaken the authority of ſuch impreſſions, by a detail of the endleſs variety of forms, which they derive from caſual aſſociations, is ſurely an employment unſuitable to the dignity of philoſophy. To the vulgar, it may be amuſing, in this, as in other inſtances, to indulge their wonder at what is new or uncommon; but to the philoſopher it belongs to perceive, under all theſe various diſguiſes, the workings of the ſame common nature; and in the ſuperſtitions of Egypt, no leſs than in the lofty viſions of Plato, to recognize the exiſtence of thoſe moral ties which unite the heart of man to the Author of his being.

SECTION II.

Influence of the Association of Ideas on our Judgments in Matters of Taste.

THE very general observations which I am to make in this Section, do not presuppose any particular theory concerning the nature of taste. It is sufficient for my purpose to remark, that taste is not a simple and original faculty, but a power gradually formed by experience and observation. It implies, indeed, as its ground-work, a certain degree of natural sensibility; but it implies also the exercise of the judgment; and is the slow result of an attentive examination and comparison of the agreeable or disagreeable effects produced on the mind by external objects.

Such of my readers as are acquainted with "An "Essay on the Nature and Principles of Taste," lately published by Mr. Alison, will not be surprised that I decline the discussion of a subject, which he has treated with so much ingenuity and elegance.

The view which was formerly given of the process, by which the general laws of the material world are investigated, and which I endeavoured to illustrate by the state of medicine among rude nations, is strictly applicable to the history of taste. That certain objects are fitted to give pleasure, and others disgust, to the mind, we know from experience alone; and it is impossible for us, by any reasoning *a priori*, to explain, *how* the pleasure or the pain is produced. In the works of nature we find, in many instances, beauty and sublimity involved among circumstances, which are either indifferent, or which obstruct the general effect: and it is only by a train of experiments, that we can separate those circumstances from the rest, and ascertain with what particular qualities the pleasing effect is connected. Ac-

cordingly, the inexperienced artiſt, when he copies nature, will copy her ſervilely, that he may be certain of ſecuring the pleaſing effect; and the beauties of his performances will be encumbered with a number of ſuperfluous or of diſagreeable concomitants. Experience and obſervation alone can enable him to make this diſcrimination: to exhibit the principles of beauty pure and unadulterated, and to form a creation of his own, more faultleſs, than ever fell under the obſervation of his ſenſes.

This analogy between the progreſs of taſte from rudeneſs to refinement; and the progreſs of phyſical knowledge from the ſuperſtitions of a ſavage tribe, to the inveſtigation of the laws of nature, proceeds on the ſuppoſition, that, as in the material world there are general facts beyond which philoſophy is unable to proceed; ſo, in the conſtitution of man, there is an inexplicable adaption of the mind to the objects with which his faculties are converſant, in conſequence of which, theſe objects are fitted to produce agreeable or diſagreeable emotions. In both caſes, reaſoning may be employed with propriety to refer particular phenomena to general principles; but in both caſes, we muſt at laſt arrive at principles of which no account can be given, but that ſuch is the will of our Maker.

A great part, too, of the remarks which were made in the laſt ſection on the origin of popular prejudices, may be applied to explain the influence of caſual aſſociations on taſte; but theſe remarks do not ſo completely exhauſt the ſubject, as to ſupercede the neceſſity of farther illuſtration. In matters of taſte, the effects which we conſider, are produced on the mind itſelf; and are accompanied either with pleaſure or with pain. Hence the tendency to caſual aſſociation, is much ſtronger than it commonly is, with reſpect to phyſical events; and when ſuch aſſociations are once formed, as they do not lead to any important inconvenience, ſimilar to

thoſe which reſult from phyſical miſtakes, they are not ſo likely to be corrected by mere experience, unaſſiſted by ſtudy. To this it is owing, that the influence of aſſociation on our judgments concerning beauty and deformity, is ſtill more remarkable than on our ſpeculative concluſions: a circumſtance which has led ſome philoſophers to ſuppoſe, that aſſociation is ſufficient to account for the origin of theſe notions: and that there is no ſuch thing as a ſtandard of taſte, founded on the principles of the human conſtitution. But this is undoubtedly puſhing the theory a great deal too far. The aſſociation of ideas can never account for the origin of a new notion; or of a pleaſure eſſentially different from all the others which we know. It may, indeed, enable us to conceive how a thing indifferent in itſelf, may become a ſource of pleaſure, by being connected in the mind with ſomething elſe which is naturally agreeable; but it preſuppoſes, in every inſtance, the exiſtence of thoſe notions and thoſe feelings which it is its province to combine; inſomuch that, I apprehend, it will be found, wherever aſſociation produces a change in our judgments on matters of taſte, it does ſo, by co-operating with ſome natural principle of the mind, and implies the exiſtence of certain original ſources of pleaſure and uneaſineſs.

A mode of dreſs, which at firſt appeared awkward, acquires, in a few weeks or months, the appearance of elegance. By being accuſtomed to ſee it worn by thoſe whom we conſider as models of taſte, it becomes aſſociated with the agreeable impreſſions, which we receive from the eaſe and grace and refinement of their manners. When it pleaſes us by itſelf, the effect is not to be aſcribed to the dreſs, but to the impreſſions with which it has been generally connected, and which it naturally recals to the mind.

This obſervation points out to us the cauſe of the

perpetual viciſſitudes in dreſs, and in every thing whoſe chief recommendation ariſes from faſhion. It is evident that, in ſo far as the agreeable effect of a dreſs ariſes from aſſociation, the effect will continue only while it is confined to the higher orders. When it is adopted by the multitude it not only ceaſes to be aſſociated with ideas of taſte and refinement, but it is aſſociated with ideas of affectation, abſurd imitation and vulgarity. It is accordingly laid aſide by the higher orders, who ſtudiouſly avoid every circumſtance in external appearance, which is debaſed by low and common uſe: and they are led to exerciſe their invention, in the introduction of ſome new peculiarities, which firſt become faſhionable, then common, and, laſt of all, are abandoned as vulgar.

It has been often remarked, that, after a certain period in the progreſs of ſociety, the public taſte becomes corrupted; and the different productions of the fine arts begin to degenerate from that ſimplicity, which they had attained in their ſtate of greateſt perfection. One reaſon of this decline is ſuggeſted by the foregoing obſervations.

From the account which has been given of the natural progreſs of taſte, in ſeparating the genuine principles of beauty from ſuperfluous and from offenſive concomitants, it is evident, that there is a limit, beyond which the love of ſimplicity cannot be carried. No bounds, indeed, can be ſet to the creations of genius; but as this quality occurs ſeldom in an eminent degree, it commonly happens, that after a period of great refinement of taſte, men begin to gratify their love of variety, by adding ſuperfluous circumſtances to the finiſhed models exhibited by their predeceſſors, or by making other trifling alterations on them, with a view merely of diverſifying the effect. Theſe additions and alterations, indifferent, perhaps, or even in ſome degree offenſive in themſelves, acquire ſoon a borrowed

beauty, from the connection in which we ſee them, or from the influence of faſhion: the ſame cauſe which at firſt produced them, continues perpetually to increaſe their number; and taſte returns to barbariſm, by almoſt the ſame ſteps which conducted it to perfection.

The truth of theſe remaks will appear ſtill more ſtriking to thoſe, who conſider the wonderful effect which a writer of ſplendid genius, but of incorrect taſte, has in miſleading the public judgment. The peculiarities of ſuch an author are conſecrated by the connexion in which we ſee them, and even pleaſe to a certain degree, when detached from the excellencies of his compoſition, by recalling to us the agreeable impreſſions with which they have been formerly aſſociated. How many imitations have we ſeen, of the affectations of Sterne, by men who were unable to copy his beauties! And yet theſe imitations of his defects; of his abrupt manner; of his minute ſpecification of circumſtances; and even of his daſhes, produce, at firſt, ſome effect, on readers of ſenſibility, but of uncultivated taſte, in conſequence of the exquiſite ſtrokes of the pathetic, and the ſingular vein of humour, with which they are united in the original.

From what has been ſaid, it is obvious, that the circumſtances which pleaſe, in the objects of taſte, are of two kinds: Firſt, thoſe which are fitted to pleaſe by nature, or by aſſociations which all mankind are led to form, by their common condition; and, ſecondly, thoſe which pleaſe in conſequence of aſſociations ariſing from local and accidental circumſtances. Hence, there are two kinds of taſte: the one enabling us to judge of thoſe beauties which have a foundation in the human conſtitution; the other, of ſuch objects as derive their principal recommendation from the influence of faſhion.

Theſe two kinds of taſte are not always united in the ſame perſon: indeed, I am inclined to think,

that they are united but rarely. The perfection of the one, depends much upon the degree in which we are able to free the mind from the influence of caſual aſſociations; that of the other, on the contrary, depends on a facility of aſſociation, which enables us to fall in, at once, with all the turns of the faſhion, and, (as Shakeſpeare expreſſes it) "to catch the tune of the times."

I ſhall endeavour to illuſtrate ſome of the foregoing remarks, by applying them to the ſubject of language, which affords numberleſs inſtances to exemplify the influence which the aſſociation of ideas has on our judgments in matters of taſte.

In the ſame manner in which an article of dreſs acquires an appearance of elegance or of vulgarity from the perſons by whom it is habitually worn; ſo a particular mode of pronunciation acquires an air of faſhion or of ruſticity, from the perſons by whom it is habitually employed. The Scotch accent is ſurely in itſelf as good as the Engliſh; and, with a few exceptions, is as agreeable to the ear: and yet how offenſive does it appear, even to us, who have been accuſtomed to hear it from our infancy, when compared with that which is uſed by our ſouthern neighbours!—No reaſon can be given for this, but that the capitol of Scotland is now become a provincial town, and London it the ſeat of our court.

The diſtinction which is to be found, in the languages of all civilized nations, between low and polite modes of expreſſion, ariſes from ſimilar cauſes. It is, indeed, amuſing to remark, the ſolicitude with which the higher orders, in the monarchies of modern Europe, avoid every circumſtance in their exterior appearance and manner, which, by the moſt remote aſſociation, may, in the minds of others, connect them with the idea of the multitude. Their whole dreſs and deportment and converſation are ſtudiouſly arranged to convey an impoſing ne-

tion of their conſequence; and to recal to the ſpectator, by numberleſs ſlight and apparently unintentional hints, the agreeable impreſſions which are aſſociated with the advantages of fortune.

To this influence of aſſociation on language, it is neceſſary for every writer to attend carefully, who wiſhes to expreſs himſelf with elegance. For the attainment of correctneſs and purity in the uſe of words, the rules of grammarians and of critics may be a ſufficient guide; but it is not in the works of this claſs of authors, that the higher beauties of ſtyle are to be ſtudied. As the air and manner of a gentleman can be acquired only by living habitually in the beſt ſociety, ſo grace in compoſition muſt be attained by an habitual acquaintance with claſſical writers. It is indeed neceſſary for our information that we ſhould peruſe, occaſionally, many books which have no merit in point of expreſſion; but I believe it to be extremely uſeful to all literary men, to counteract the effect of this miſcellaneous reading by maintaining a conſtant and familiar acquaintance with a few of the moſt faultleſs models which the language affords. For want of ſome ſtandard of this ſort we frequently ſee an author's taſte in writing alter much to the worſe in the courſe of his life; and his later productions fall below the level of his early eſſays. D'Alembert tells us, that Voltaire had always lying on his table, the Petit Carême of Maſſilon, and the tragedies of Racine; the former to fix his taſte in proſe compoſition, and the latter in poetry.

In avoiding, however, expreſſions which are debaſed by vulgar uſe, there is danger of running into the other extreme, in queſt of faſhionable words and phraſes. Such an affectation may, for a few years, gratify the vanity of an author, by giving him the air of a man of the world; but the reputation it beſtows, is of a very tranſitory nature. The works which continue to pleaſe from age to

age, are written with perfect simplicity; while those which captivate the multitude, by a display of meretricious ornaments, if, by chance, they should survive the fashions to which they are accommodated, remain only to furnish a subject of ridicule to posterity. The portrait of a beautiful woman, in the fashionable dress of the day, may please at the moment it is painted; nay, may perhaps please more than in any that the fancy of the artist could have suggested; but it is only in the plainest and simplest drapery, that the most perfect form can be transmitted with advantage to future times.

The exceptions which the history of literature seems to furnish to these observations, are only apparent. That, in the works of our best authors, there are many beauties which have long and generally been admired, and which yet owe their whole effect to association, cannot be disputed; but in such cases, it will always be found, that the associations which are the foundation of our pleasure, have, in consequence of some peculiar combination of circumstances, been more widely diffused, and more permanently established among mankind, than those which date their origin from the caprices of our own age are ever likely to be. An admiration for the classical remains of antiquity is at present, not less general in Europe, than the advantages of a liberal education, and such is the effect of this admiration, that there are certain caprices of taste, from which no man who is will educated is entirely free. A composition in a modern language which should sometimes depart from the ordinary modes of expression, from an affectation of the idioms which are consecrated in the classics, would please a very wide circle of readers, in consequence of the prevalence of classical associations; and, therefore, such affectations, however absurd when carried to a degree of singularity, are of a far superior class to those which are adapted to the fashions of

the day. But ſtill the general principle holds true. That whatever beauties derive their origin merely from caſual aſſociation, muſt appear capricious to thoſe to whom the aſſociation does not extend; and that the ſimpleſt ſtyle is that which continues longeſt to pleaſe, and which pleaſes moſt univerſally. In the writings of Mr. Harris, there is a certain claſſical air, which will always have many admirers, while ancient learning continues to be cultivated; but which to a mere Engliſh reader, appears ſomewhat unnatural and ungraceful, when compared with the compoſition of Swift or of Addiſon.

The analogy of the arts of ſtatuary and painting, may be of uſe in illuſtrating theſe remarks. The influence of ancient times has extended to theſe, as well as to the art of writing; and in this caſe, no leſs than in the other, the tranſcendent power of genius has eſtabliſhed a propriety of choice in matters of indifference, and has, perhaps, conſecrated in the opinion of mankind, ſome of its own caprices.

"Many of the ornaments of art," (ſays Sir Joſhua Reynolds) "thoſe, at leaſt, for which no reaſon "can be given, are tranſmitted to us, are adopted, "and acquire their conſequence, from the com- "pany in which we have been uſed to ſee them. "As Greece and Rome are the fountains from "whence have flowed all kinds of excellence, to "that veneration which they have a right to claim "for the pleaſure and knowledge which they have "afforded us, we voluntarily add our approbation "of every ornament and every cuſtom that belong- "ed to them, even to the faſhion of their dreſs. "For it may be obſerved, that, not ſatisfied with "them in their own place, we make no difficulty "of dreſſing ſtatues of modern heroes or ſenators, "in the faſhion of the Roman armour or peaceful "robe; and even go ſo far as hardly to bear a ſtat- "ue in any other drapery.

"The figures of the great men of thoſe nations "have come down to us in ſculpture. In ſculpture "remain almoſt all the excellent ſpecimens of an- "cient art. We have ſo far aſſociated perſonal dig- "nity to the perſons thus repreſented, and the "truth of art to their manner of repreſentation, "that it is not in our power any longer to ſeparate "them. This is not ſo in painting; becauſe, hav- "ing no excellent ancient portraits, that connexion "was never formed. Indeed, we could no more "venture to paint a general officer, in a Roman "military habit, than we could make a ſtatue in "the preſent uniform. But ſince we have no an- "cient portraits, to ſhew how ready we are to "adopt thoſe kinds of prejudices, we make the beſt "authority among the moderns ſerve the ſame "purpoſe. The great variety of excellent portraits "with which Vandyke has enriched this nation, we "are content to admire for their real excellence, "but extend our approbation even to the dreſs "which happened to be the faſhion of that age. "By this means, it muſt be acknowledged, very "ordinary pictures acquired ſomething of the air "and effect of the works of Vandyke, and appear- "ed therefore at firſt ſight, better pictures than "they really were. They appeared ſo, however, "to thoſe only who had the means of making this "aſſociation."*

The influence of aſſociation on our notions concerning language, is ſtill more ſtrongly exemplified in poetry than in proſe. As it is one great object of the poet, in his ſerious productions, to elevate the imagination of his readers above the groſſneſs of ſenſible objects, and the vulgarity of common life, it becomes peculiarly neceſſary for him to reject the uſe of all words and phraſes which are trivial and hackneyed. Among thoſe which are equal-

* Reynold's Diſcourſes, p. 313, et ſeq.

ly pure and equally perſpicuous, he, in general, finds it expedient to adopt that which is the leaſt common. Milton prefers the words Rhene and Danaw, to the more common words Rhine and Danube.

"A multitude, like which the populous North
"Pour'd never from his frozen loins, to paſs
"Rhene or the Denaw."*

In the following line,

"Things unattempted yet in proſe or rhyme."

how much more ſuitable to the poetical ſtyle does the expreſſion appear, than if the author had ſaid,

"Things unattempted yet in proſe or verſe."

In another paſſage, where, for the ſake of variety, he has made uſe of the laſt phraſe, he adds an epithet, to remove it alittle from the familiarity of ordinary diſcourſe.

——"in proſe or numerous verſe."†

In conſequence of this circumſtance, there ariſes gradually in every language a poetical diction, which differs widely from the common diction of proſe. It is much leſs ſubject to the viciſſitudes of faſhion, than the polite modes of expreſſion in familiar converſation; becauſe it has once been adopted by the poet, it is avoided by good proſe writers, as being too elevated for that ſpecies of compoſition. It may therefore retain its charm, as long as the language exiſts; nay, the charm may increaſe, as the language grows older.

Indeed, the charm of poetical diction muſt increaſe to a certain degree, as polite literature ad-

* Paradiſe Loſt, book i. l. 351.

† Paradiſe Loſt, book i. l. 150. See NEWTON's Edit.

vances. For when once a ſet of words has been conſecrated to poetry, the very ſound of them, independently of the ideas they convey, awakens, every time we hear it, the agreeable impreſſions which were connected with it, when we met with them in the performances of our favorite authors. Even when ſtrung together in ſentences which convey no meaning, they produce ſome effect on the mind of a reader of ſenſibility: an effect, at leaſt, extremely different from that of an unmeaning ſentence in proſe.

Languages differ from each other widely in the copiouſneſs of their poetical diction. Our own poſſeſſes, in this reſpect, important advantages over the French: not that, in this language, there are no words appropriated to poetry, but becauſe their number is, comparatively ſpeaking, extremely limited.

The ſcantineſs of the French poetical diction is, probably, attended with the leſs inconvenience, that the phraſes which occur in good proſe writing are leſs degraded by vulgar application than in Engliſh in conſequence of the line being more diſtinctly and more ſtrongly drawn between polite and low expreſſions in that language than in ours. Our poets indeed, by having a language appropriated to their own purpoſes, not only can preſerve a dignity of expreſſion, but can connect with the peruſal of their compoſitions, the pleaſing impreſſions which have been produced by thoſe of their predeceſſors. And hence, in the higher ſorts of poetry, where their object is to kindle as much as poſſible, the enthuſiaſm of their readers, they not only avoid ſtudiouſly, all expreſſions which are vulgar, but all ſuch as are borrowed from faſhionable life. This certainly cannot be done in an equal degree, by a poet who writes in the French language.

In Engliſh, the poetical diction is ſo extremely

copious, that it is liable to be abuſed; as it puts it in the power of authors of no genius, merely by ringing changes on the poetical vocabulary, to give a certain degree of currency to the moſt unmeaning compoſitions. In Swift's Song by a perſon of Quality, the incoherence of ideas is ſcarcely greater than what is to be found in ſome admired paſſages of our faſhionable poetry.

Nor is it merely by a difference of words, that the language of poetry is diſtinguiſhed from that of proſe. When a poetical arrangement of words has once been eſtabliſhed by authors of reputation the moſt common expreſſions, by being preſented in this conſecrated order, may ſerve to excite poetical aſſociations.

On the other hand, nothing more completely deſtroys the charm of poetry, than a ſtring of words which the cuſtom of ordinary diſcourſe has arranged in ſo invariable an order, that the whole phraſe may be anticipated from hearing its commencement. A ſingle word frequently ſtrikes us as flat and proſaic, in conſequence of its familiarity; but two ſuch words coupled together, in the order of converſation, can ſcarcely be introduced into ſerious poetry, without appearing ludicrous.

No poet in our language has ſhewn ſo ſtrikingly as Milton, the wonderful elevation which ſtyle may derive from an arrangement of words, which, while it is perfectly intelligible, departs widely from that to which we are in general accuſtomed. Many of his moſt ſublime periods, when the order of the words is altered, are reduced near to the level of proſe.

To copy this artifice with ſucceſs, is a much more difficult attainment than is commonly imagined; and of conſequence, when it is acquired, it ſecures an author, to a great degree, from that crowd of imitators who ſpoil the effect of whatever is beyond their reach. To the poet who uſes

blank verſe, it is an acquiſion of ſtillmore eſſential conſequence, than to him who expreſſes himſelf in rhyme; for the more that the ſtructure of the verſe approaches to proſe, the more it is neceſſary to give novelty and dignity to the compoſition. And, accordingly, among our magazine poets, ten thouſand catch the ſtructure of Pope's verſification, for one who approaches to the manner of Milton, or of Thompſon.

The facility, however, of this imitation, like every other, increaſes with the number of thoſe who have ſtudied it with ſucceſs; for the more numerous the authors who have employed their genius in any one direction, the more copious are the materials out of which mediocrity may ſelect and combine, ſo as to eſcape the charge of plagiariſm. And in fact, in our own language, this, as well as the other great reſource of poetical expreſſion, the employment of appropriated words, has had its effect ſo much impaired by the abuſe which has been made of it, that a few of our beſt poets of late have endeavoured to ſtrike out a new path for themſelves by reſting the elevation of their compoſition chiefly on a ſingular, and, to an ordinary writer, an unattainable union of harmonious verſification, with a natural arrangement of words and a ſimple elegance of expreſſion. It is this union which ſeems to form the diſtinguiſhing charm of the poetry of Goldſmith.

From the remarks which have been made on the influence of the aſſociation of ideas on our judgments in matters of taſte, it is obvious how much the opinions of a nation, with reſpect to merit in the fine arts, are likely to be influenced by the form of their government, and the ſtate of their manners. Voltaire, in his diſcourſe pronounced at his reception into the French academy, gives ſeveral reaſons why the poets of that country have not ſucceeded in deſcribing rural ſcenes and employments.

The principal one is, the ideas of meanneſs, and poverty, and wretchedneſs, which the French are accuſtomed to aſſociate with the profeſſion of huſbandry. The ſame thing is alluded to by the Abbè de Lille, in the preliminary diſcourſe prefixed to the tranſlation of the Georgics. "A tranſlation," ſays he, "of "this poem, if it had been undertaken by an au"thor of genius, would have been better calculated "than any other work, for adding to the riches of "our language. A verſion of the Æneid itſelf, "however well executed, would, in this reſpect, "be of leſs utility; inaſmuch as the genius of our "tongue accommodates itſelf more eaſily to the "deſcription of heroic atchievements, than to the "details of natural phenomena, and of the opera"tions of huſbandry. To force it to expreſs theſe "with ſuitable dignity, would have been a real con"queſt over that falſe delicacy, which it has con"tracted from our unfortunate prejudices."

How different muſt have been the emotions with which that divine performance of Virgil was read by an ancient Roman, while he recollected that period in the hiſtory of his country, when dictators were called from the plough to the defence of the ſtate, and, after having led monarchs in triumph, returned again to the ſame happy and independent occupation. A ſtate of manners to which a Roman author of a later age looked back with ſuch enthuſiaſm, that he aſcribes, by a bold, poetical figure, the flouriſhing ſtate of agriculture under the republic, to the grateful returns which the earth then made to the illuſtrious hands by which ſhe was cultivated. "Gaudente terra vomere laureato, et trium"phali aratore."*

* PLIN. Nat. Hiſt. xviii. 4.

SECTION III.

Of the Influence of Association on our Active Principles, and on our Moral Judgments.

IN order to illustrate a little farther, the influence of the association of ideas on the human mind, I shall add a few remarks on some of its effects on our active and moral principles. In stating these remarks, I shall endeavour to avoid, as much as possible, every occasion of controversy, by confining myself to such general views of the subject, as do not presuppose any particular enumeration of our original principles of action, or any particular system concerning the nature of the moral faculty. If my health and leisure enable me to carry my plans into execution, I propose in the sequel of this work, to resume these inquiries, and to examine the various opinions to which they give rise.

The manner in which the association of ideas operates in producing new principles of action, has been explained very distinctly by different writers. Whatever conduces to the gratification of any natural appetite, or of any natural desire, is itself desired on account of the end to which it is subservient; and by being thus habitually associated in our apprehension with agreeable objects, it frequently comes, in process of time, to be regarded as valuable in itself, independently of its utility. It is thus that wealth becomes, with many, an ultimate object of pursuit; although, at first, it is undoubtedly valued, merely on account of its subserviency to the attainment of other objects. In like manner, men are led to desire dress, equipage, retinue, furniture, on account of the estimation in which they are supposed to be held by the public. Such desires are called by Dr. Hutcheson* *secondary* desires;

* See his Essay on the Nature and Conduct of the Passions.

and their origin is explained by him in the way which I have mentioned. "Since we are capable," says he, "of reflection, memory, observation, and reasoning about the distant tendencies "of objects and actions, and not confined to things "present, there must arise, in consequence of our "original desires, secondary desires of every thing "imagined useful to gratify any of the primary de-"sires; and that with strength proportioned to "the several original desires, and imagined useful-"ness or necessity of the advantageous object."— "Thus," he continues, "as soon as we come to "apprehend the use of wealth, or power to grat-"ify any of our original desires, we must also desire "them; and hence arises the universality of these "desires of wealth and power, since they are the "means of gratifying all other desires." The only thing that appears to me exceptionable in the foregoing passage is, that the author classes the desire of power with that of wealth; whereas I apprehend it to be clear, (for reasons which I shall state in another part of this work,) that the former is a primary desire, and the latter a secondary one.

Our moral judgments, too, may be modified, and even perverted, to a certain degree, in consequence of the operation of the same principle. In the same manner in which a person, who is regarded as a model of taste, may introduce, by his example, an absurd or fantastical dress; so a man of splendid virtues may attract some esteem, also to his imperfections; and, if placed in a conspicuous situation, may render his vices and follies objects of general imitation among the multitude.

"In the reign of Charles II." says Mr. Smith,* "a degree of licentiousness was deemed the charac-"teristic of a liberal education. It was connected, "according to the notions of those times, with

* Theory of Moral Sentiments.

" generosity, sincerity, magnanimity, loyalty; and " proved that the person who acted in this manner, " was a gentleman, and not a puritan. Severity " of manners, and regularity of conduct, on the " other hand, were altogether unfashionable, and " were connected, in the imagination of that age, " with cant, cunning, hypocrisy, and low manners. " To superficial minds, the vices of the great seem " at all times agreeable. They connect them, not " only with the splendor of fortune, but with many " superior virtues which they ascribe to their supe- " riors; with the spirit of freedom and indepen- " dency; with frankness, generosity, humanity, and " politeness. The virtues of the inferior ranks of " people, on the contrary, their parsimonious fru- " gality, their painful industry, and rigid adherence " to rules, seem to them mean and disagreeable. " They connect them both with the meanness of " the station to which these qualities commonly be- " long, and with many great vices which they sup- " pose usually accompany them; such as an abject, " cowardly, ill-natured, lying, pilfering disposition."

The theory which in the foregoing passages from Hutcheson and Smith, is employed so justly and philosophically to explain the origin of our secondary desires, and to account for some perversions of our moral judgments, has been thought sufficient, by some later writers, to account for the origin of all our active principles without exception. The first of these attempts to extend so very far the application of the doctrine of association, was made by the reverend Mr. Gay, in a dissertation " con- " cerning the fundamental Principle of Virtue," which is prefixed by Dr. Law to his translation of Archbishop King's Essay on " the Origin of Evil." In this dissertation, the author endeavours to shew, " that our approbation of morality, and all affections " whatsoever, are finally resolvable into reason, " pointing out private happiness, and are conversant

" only about things apprehended to be the means " tending to this end; and that wherever this end " is not perceived, they are to be accounted for " from the aſſociation of ideas, and may properly " be called habits." The ſame principles have been ſince puſhed to a much greater length by Dr. Hartley, whoſe ſyſtem (as he himſelf informs us) took riſe from his accidentally hearing it mentioned as an opinion of Mr. Gay, " that the aſſociation of " ideas was ſufficient to account for all our intellec- " tual pleaſures and pains.*

It muſt, I think, in juſtice, be acknowledged, that this theory, concerning the orign of our affections, and of the moral ſenſe, is a moſt ingenious refinement upon the ſelfiſh ſyſtem, as it was formerly taught; and that, by means of it, the force of many of the common reaſonings againſt that ſyſtem is eluded. Among theſe reſonings, particular ſtreſs has always been laid on the inſtantaneouſneſs with which our affections operate, and the moral ſenſe approves or condemns; and on our total want of conſciouſneſs, in ſuch caſes, of any reference to our own happineſs. The modern advocates for the ſelfiſh ſyſtem admit the fact to be as it is ſtated by their opponents; and grant, that after the moral ſenſe and our various affections are formed, their exerciſe, in particular caſes, may become completely diſintereſted; but ſtill they contend, that it is upon a regard to our own happineſs that all theſe principles are originally grafted. The analogy of avarice

* Mr. Hume, too, who, in my opinion, has carried this principle of the aſſociation of ideas a great deal too far, has compared the univerſality of its applications in the philoſophy of the mind, to that of the principle of attraction in phyſics. " Here," ſays he, " is a kind of attraction which " in the mental world will be found to have as extraordinary " effects as in the natural, and to ſhew itſelf in as many and " as various forms."

Treat. of Hum. Nat. vol. i. p. 30.

will ſerve to illuſtrate the ſcope of this theory. It cannot be doubted that this principle of action is artificial. It is on account of the enjoyments which it enable us to purchaſe, that money is originally deſired; and yet, in proceſs of time, by means of the agreeable impreſſions which are aſſociated with it, it comes to be deſired for its own ſake; and even continues to be an object of our purſuit, long after we have loſt all reliſh for thoſe enjoyments which it enables us to command.

Without meaning to engage in any controverſy on the ſubject, I ſhall content myſelf with obſerving in general that there muſt be ſome limit, beyond which the theory of aſſociation cannot poſſibly be carried; for the explanation which it gives, of the formation of new principles of action, proceeds on the ſuppoſition, that there are other principles previouſly exiſting in the mind. The great queſtion then is, when we are arrived at this limit; or, in other words, when we are arrived at the ſimple and original laws of our conſtitution.

In conducting this inquiry, philoſophers have been apt to go into extremes. Lord Kaims, and ſome other authors, have been cenſured, and perhaps juſtly, for a diſpoſition to multiply original principles to an unneceſſary degree. It may be queſtioned, whether Dr. Hartley, and his followers, have not ſometimes been miſled by too eager a deſire of abridging their number.

Of theſe two errors, the former is the leaſt common, and the leaſt dangerous. It is the leaſt common, becauſe it is not ſo flattering as the other to the vanity of a theoriſt; and it is the leaſt dangerous, becauſe it has no tendency, like the other, to give riſe to a ſuppreſſion, or to a miſrepreſentation of facts; or to retard the progreſs of the ſcience, by beſtowing on it an appearance of ſyſtematical perfection, to which in its preſent ſtate it is not entitled.

Abſtracting, however, from theſe inconveniences, which muſt always reſult from a precipitate reference of phenomena to general principles, it does not ſeem to me, that the theory in queſtion has any tendency to weaken the foundation of morals. It has, indeed, ſome tendency, in common with the philoſophy of Hobbes and of Mandeville, to degrade the dignity of human nature: but it leads to no ſceptical concluſions concerning the rule of life. For, although we were to grant, that all our principles of action are acquired; ſo ſtriking a difference among them muſt ſtill be admitted, as is ſufficient to diſtinguiſh clearly thoſe univerſal laws, which were intended to regulate human conduct, from the local habits which are formed by education and faſhion. It muſt ſtill be admitted, that while ſome active principles are confined to particular individuals, or to particular tribes of men; there are others, which, ariſing from circumſtances in which all the ſituations of mankind muſt agree, are common to the whole ſpecies. Such active principles as fall under this laſt deſcription, at whatever period of life they may appear, are to be regarded as a part of human nature, no leſs than the inſtinct of ſuction; in the ſame manner as the acquired perception of diſtance by the eye, is to be ranked among the perceptive powers of man, no leſs than the original perceptions of any of our other ſenſes.

Leaving, therefore, the queſtion concerning the origin of our active principles, and of the moral faculty, to be the ſubject of future diſcuſſion, I ſhall conclude this Section with a few remarks of a more practical nature.

It has been ſhewn by different writers, how much of the beauty and ſublimity of material objects ariſes from the idea and feelings which we have been taught to aſſociate with them. The impreſſion produced on the external ſenſes of a poet, by the moſt ſtriking ſcene in nature, is preciſely the

ſame with what is produced on the ſenſes of a peaſant or a tradeſman: yet how different is the degree of pleaſure reſulting from this impreſſion! A great part of this difference is undoubtedly to be aſcribed to the ideas and feelings, which the habitual ſtudies and amuſements of the poet have aſſociated with his origanical perceptions.

A ſimilar obſervation may be applied to all the various objects of our purſuit in life. Hardly any one of them is appreciated by any two men in the ſame manner; and, frequently, what one man conſiders as eſſential to his happineſs, is regarded with indifference or diſlike by another. Of theſe differences of opinion, much is, no doubt, to be aſcribed to a diverſity of conſtitution, which renders a particular employment of the intellectual or active powers agreeable to one man, which is not equally ſo to another. But much is alſo to be aſcribed to the effect of aſſociation; which, prior to any experience of human life, connects pleaſing ideas and pleaſing feelings with different object in the minds of different perſons.

In conſequence of theſe aſſociations, every man apears to his neighbour to purſue the object of his wiſhes, with a zeal diſproportioned to its intrinſic value; and the philoſopher (whoſe principle enjoyment ariſes from ſpeculation) is frequently apt to ſmile at the ardour with which the active part of mankind purſue, what appear to him to be mere ſhadows. This view of human affairs, ſome writers have carried ſo far, as to repreſent life as a ſcene of mere illuſions, where the mind refers to the objects around it, a colouring which exiſts only in itſelf; and where, as the poet expreſſes it,

——"Opinion gilds with varying rays,
"Thoſe paitned clouds which beautify our days."

It may be queſtioned, if theſe repreſentations of human life be uſeful or juſt. That the caſual affo-

ciations which the mind forms in childhood, and in early youth are frequently a ſource of inconvenience and of miſconduct, is ſufficiently obvious; but that this tendency of our nature increaſes, on the whole, the ſum of human enjoyment, appears to me to be indiſputable; and the inſtances in which it miſleads us from our duty and our happineſs, only prove, to what important ends it might be ſubſervient, if it were kept under proper regulation.

Nor do theſe repreſentations of life (admitting them in their full extent) juſtify the practical inferences which have been often deduced from them, with reſpect to the vanity of our purſuits. In every caſe, indeed, in which our enjoyment depends upon aſſociation, it may be ſaid in one ſenſe, that it ariſes from the mind itſelf; but it does not therefore follow, that the external object, which cuſtom has rendered the cauſe or the occaſion of agreeable emotions, is indifferent to our happineſs. The effect which the beauties of nature produce on the mind of the poet, is wonderfully heightened by aſſociation; but his enjoyment is not, on that account, the leſs exquiſite; nor are the objects of his admiration of the leſs value to his happineſs, that they derive their principal charms from the embelliſhments of his fancy.

It is the buſineſs of education, not to counteract in any inſtance, the eſtabliſhed laws of our conſtitution, but to direct them to their proper purpoſes. That the influence of early aſſociations on the mind might be employed, in the moſt effectual manner, to aid our moral principles, appears evidently from the effects which we daily ſee it produce, in reconciling men to a courſe of action which their reaſon forces them to condemn; and it is no leſs obvious that, by means of it, the happineſs of human life might be increaſed, and its pains diminiſhed, if the agreeable ideas and feelings which children are ſo apt to connect with events and with ſituations which

depend on the caprice of fortune, were firmly aſſociated in their apprehenſions with the duties of their ſtations, with the purſuits of ſcience, and with thoſe beauties of nature which are open to all.

Theſe obſervations coincide nearly with the ancient ſtoical doctrine concerning the influence of *imagination** on morals; a ſubject, on which many important remarks, (though expreſſed in a form different from that which modern philoſophers have introduced, and, perhaps, not altogether ſo preciſe and accurate) are to be found in the Diſcourſes of Epictetus, and in the Meditations of Antonius.† This doctrine of the Stoical ſchool, Dr. Akenſide has in view in the following paſſage.

" Action treads the path
" In which Opinion ſays he follows good,
" Or flies from evil; and Opinion gives
" Report of good or evil, as the ſcene
" Was drawn by fancy, lovely or deform'd:
" Thus her report can never there be true,
" Where fancy cheats the intellectual eye
" With glaring colours and diſtorted lines.
" Is there a man, who at the ſound of death
" Sees ghaſtly ſhapes of terror conjur'd up,
" And black before him: nought but death-bed groans;
" And fearful prayers, and plunging from the brink
" Of light and being, down the gloomy air,
" An unknown depth? Alas! in ſuch a mind,
" If no bright forms of excellence attend
" The image of his country; nor the pomp

* According to the uſe which I make of the words imagination, and aſſociation, in this work, their effects are obviouſly diſtinguiſhable. I have thought it proper, however to illuſtrate the difference between them a little more fully in Note [R.]

† See what Epictetus has remarked on the χρησις δια δι φαντασιων. (Arrian, l. i. c. 12.) Οια αι πολλακις φαντασθης, τοιαυτη σοι εσται ἡ διανοια. βαπτεται γαρ υπο των φαντασιων ἡ ψυχη. βαπτε ουν αυτην, τη συνεχεια των τοιουτων φαντασιων, &c. &c. Anton. l. v. c. 16.

" Of ſacred ſenates, nor the guardian voice
" Of Juſtice on her throne, nor ought that wakes
" The conſcious boſom with a patriots' flame:
" Will not opinion tell him, that to die,
" Or ſtand the hazard, is a greater ill
" Than to betray his country? And in act
" Will he not chuſe to be a wretch and live?
" Here vice begins then."*

SECTION IV.

General Remarks on the Subjects treated in the Foregoing Sections of this Chapter.

IN peruſing the foregoing ſections of this chapter, I am aware, that ſome of my readers may be apt to think, that many of the obſervations which I have made, might eaſily be reſolved into more general principles. I am alſo aware, that, to the followers, of Dr. Hartley, a ſimilar objection will occur againſt all the other parts of this work; and that it will appear to them the effect of inexcuſable prejudice, that I ſhould ſtop ſhort ſo frequently in the explanation of phenomena; when he has accounted, in ſo ſatisfactory a manner, by means of the aſſociation of ideas, for all the appearances which human nature exhibits.

To this objection, I ſhall not feel myſelf much intereſted to reply, provided it be granted that my obſervations are candidly and accurately ſtated, ſo far as they reach. Suppoſing that in ſome caſes I may have ſtopped ſhort too ſoon, my ſpeculations, although they may be cenſured as imperfect, cannot be conſidered as ſtanding in oppoſition to the concluſions of more ſucceſsful inquirers.

May I be allowed farther to obſerve, that ſuch

* Pleaſures of Imagination, b. iii.

views of the human mind as are contained in this work, (even ſuppoſing the objection to be well-founded) are, in my opinion, indiſpenſably neceſſary, in order to prepare the way for thoſe very general and comprehenſive theories concerning it, which ſome eminent writers of the preſent age have been ambitious to form?

Concerning the merit of theſe theories, I ſhall not preſume to give any judgment. I ſhall only remark that, in all the other ſciences, the progreſs of diſcovery has been gradual, from the leſs general to the more general laws of nature; and that it would be ſingular, indeed, if, in the philoſophy of the human mind, a ſcience, which but a few years ago was confeſſedly in its infancy, and which certainly labours under many diſadvantages peculiar to itſelf, a ſtep ſhould, all at once, be made to a ſingle principle, comprehending all the particular phenomena which we know.

Suppoſing ſuch a theory to be completely eſtabliſhed, it would ſtill be proper to lead the minds of ſtudents to it by gradual ſteps. One of the moſt important uſes of theory, is to give the memory a permanent hold, and a prompt command, of the particular facts which we were previouſly acquainted with; and no theory can be completely underſtood unleſs the mind be led to it nearly in the order of inveſtigation.

It is more particularly uſeful in conducting the ſtudies of others, to familiariſe their minds, as completely as poſſible, with thoſe laws of nature for which we have the direct evidence of ſenſe, or of conſciouſneſs, before directing their inquiries to the more abſtruſe and refined generalizations of ſpeculative curioſity. In natural philoſophy, ſuppoſing the theory of Boſcovich to be true, it would ſtill be proper, or rather indeed abſolutely neceſſary, to accuſtom ſtudents, in the firſt ſtage of their phyſical education, to dwell on thoſe general phyſical facts

which fall under our actual obſervation, and about which all the practical arts of life are converſant. In like manner, in the philoſophy of mind, there are many general facts for which we have the direct evidence of conſciouſneſs. The words, attention, conception, memory, abſtraction, imagination, curioſity, ambition, compaſſion, reſentment, expreſs powers and principles of our nature, which every man may ſtudy, by reflecting on his own internal operations. Words correſponding to theſe, are to be found in all languages, and may be conſidered as making the firſt attempt towards a philoſophical claſſification of intellectual and moral phenomena. Such a claſſification however imperfect and indiſtinct, we may be aſſured, muſt have ſome foundation in nature; and it is at leaſt prudent, for a philoſopher to keep it in view, as the ground-work of his own arrangement. It not only directs our attention to thoſe facts in the human conſtitution, on which every ſolid theory, in this branch of ſcience, muſt be founded; but to the facts, which, in all ages, have appeared to the common ſenſe of mankind, to be the moſt ſtriking and important; and of which it ought to be the great object of theoriſts not to ſupercede, but to facilitate the ſtudy.

There is indeed good reaſon for believing, that many of the facts which our conſciouſneſs would lead us to conſider, upon a ſuperficial view, as ultimate facts, are reſolvable into other principles ſtill more general. "Long before we are capable of "reflection," (ſays Dr. Reid) "the original perceptions and notions of the mind are ſo mixed, compounded, and decompounded, by habits aſſociations, and abſtractions, that it is extremely difficult for the mind to return upon its own footſteps, and trace back thoſe operations which have employed it ſince it firſt began to think and to act." The ſame author remarks, that, "if we could obtain a diſtinct and full hiſtory of all that

" hath paſſed in the mind of a child, from the begin-
" ning of life and ſenſation, till it grows up to the
" uſe of reaſon; how its infant faculties began to
" work, and how they brought forth and ripened
" all the various notions, opinions, and ſentiments,
" which we find in ourſelves when we come to be
" capable of reflection; this would be a treaſure of
" Natural Hiſtory, which would probably give more
" light into the human faculties, than all the ſyſ-
" tems of philoſophers about them, ſince the be-
" ginning of the world." To accompliſh an analy-
ſis of theſe complicated phenomena into the ſimple and original principles of our conſtitution, is the great object of this branch of philoſophy; but in order to ſucceed, it is neceſſary to aſcertain facts before we begin to reaſon, and to avoid generalizing in any inſtance, till we have completely ſecured the ground that we have gained. Such a caution, which is neceſſary in all the ſciences, is, in a more peculiar manner, neceſſary here, where the very facts from which all our inferences muſt be drawn are to be aſcertained only by the moſt patient attention; and, where almoſt all of them are, to a great degree, diſguiſed; partly by the inaccuracies of popular language, and partly by the miſtaken theories of philoſophers.

I have only to add, that, although I have retained the phraſe of the aſſociation of Ideas, in compliance with common language, I am far from being completely ſatisfied with this mode of expreſſion. I have retained it, chiefly that I might not expoſe myſelf to the cenſure of delivering old doctrines in a new form.

As I have endeavoured to employ it with caution, I hope that it has not often miſled me in my reaſonings. At the ſame time, I am more and more convinced of the advantages to be derived from a reformation of the common language, in moſt of the branches of ſcience. How much ſuch a refor-

mation has effected in Chemiſtry is well known; and it is evidently much more neceſſary in the Philoſophy of Mind, where the prevailing language adds to the common inaccuracies of popular expreſſions, the peculiar diſadvantage of being all ſuggeſted by the analogy of matter. Often, in the compoſition of this work, have I recollected the advice of Bergman to Morveau.* "In reforming the nomencla-" ture of chemiſtry, ſpare no word which is im-" proper. They who underſtand the ſubject al-" ready, will ſuffer no inconvenience; and they to " whom the ſubject is new, will comprehend it with " the greater facility." But it belongs to ſuch authors alone, as have extended the boundaries of ſcience by their own diſcoveries, to introduce innovations in language with any hopes of ſucceſs.

CHAPTER SIXTH.

Of Memory.

SECTION I.

General Obſervations on Memory.

AMONG the various powers of the underſtanding, there is none which has been ſo attentively examined by philoſophers, or concerning which

* "Le ſavant Profeſſeur d'Upſal, M. Bergman, écrivoit à ' M. de Morveau dans les derniers temps de ſa vie, ne faites ' graces à aucune denomination impropre. Ceux qui ſa-' vent dèja entendront toujours; ceux qui ne ſavent pas ' encore entendront plutôt."

Methode de Nomenclat. Chèmique, par M. M. Morveau, Lavoisier, &c.

ſo many important facts and obſervations have been collected, as the faculty of Memory. This is partly to be aſcribed to its nature, which renders it eaſily diſtinguiſhable from all the other principles of our conſtitution, even by thoſe who have not been accuſtomed to metaphyſical inveſtigations; and partly to its immediate ſubſerviency, not only to the purſuits of ſcience, but to the ordinary buſineſs of life; in conſequence of which, many of its moſt curious laws had been obſerved, long before any analyſis was attempted of the other powers of the mind; and have, for many ages, formed a part of the common maxims which are to be found in every treatiſe of education. Some important remarks on the ſubject may, in particular, be collected from the writings of the ancient rhetoricians.

The word memory is not employed uniformly in the ſame preciſe ſenſe; but it always expreſſes ſome modification of that faculty, which enables us to treaſure up, and preſerve for future uſe, the knowledge we acquire; a faculty which is obviouſly the great foundation of all intellectual improvement, and without which, no advantage could be derived from the moſt enlarged experience. This faculty implies two things: a capacity of retaining knowledge; and a power of recalling it to our thoughts, when we have occaſion to apply it to uſe. The word memory is ſometimes employed to expreſs the capacity, and ſometimes the power. When we ſpeak of a retentive memory, we uſe it in the former ſenſe; when of a ready memory, in the latter.

The various particulars which compoſe our ſtock of knowledge are, from time to time, recalled to our thoughts, in one of two ways: ſometimes they recur to us ſpontaneouſly, or at leaſt, without any interference on our part; in other caſes, they are recalled, in conſequence of an effort of our will. For the former operation of the mind, we have no

appropriated name in our language, diſtinct from memory. The latter, too, is often called by the ſame name, but is more properly diſtinguiſhed by the word recollection.

There are, I believe, ſome other acceptations beſides theſe, in which the word memory has been occaſionally employed; but as its ambiguities are not of ſuch a nature as to miſlead us in our preſent inquiries, I ſhall not dwell any longer on the illuſtration of diſtinctions, which to the greater part of readers might appear unintereſting and minute. One diſtinction only, relative to this ſubject, occurs to me, as deſerving particular attention.

The operations of memory relate either to things and their relations, or to events. In the former caſe, thoughts which have been previouſly in the mind, may recur to us, without ſuggeſting the idea of the paſt, or of any modification of time whatever; as when I repeat over a poem which I have got by heart, or when I think of the features of an abſent friend. In this laſt inſtance, indeed, philoſophers diſtinguiſh the act of the mind by the name of conception; but in ordinary diſcourſe, and frequently even in philoſophical writing, it is conſidered as an exertion of memory. In theſe and ſimilar caſes, it is obvious, that the operations of this faculty do not neceſſarily involve the idea of the paſt.

The caſe is different with reſpect to the memory of events. When I think of theſe, I not only recal to the mind the former objects of its thoughts, but I refer the event to a particular point of time; ſo that, of every ſuch act of memory, the idea of the paſt is a neceſſary concomitant.

I have been led to take notice of this diſtinction in order to obviate an objection which ſome of the phenomena of memory ſeem to preſent, againſt a doctrine which I formerly ſtated, when treating of the powers of conception and imagination.

It is evident, that when I think of an event, in

which any object of ſenſe was concerned, my recollection of the event muſt neceſſarily involve an act of conception. Thus, when I think of a dramatic repreſentation which I have recently ſeen, my recollection of what I ſaw, neceſſarily involves a conception of the different actors by whom it was performed. But every act of recollection which relates to events, is accompanied with a belief of their paſt exiſtence. How then are we to reconcile this concluſion with the doctrine formerly maintained concerning conception, according to which every exertion of that power is accompanied with a belief, that its object exiſts before us at the preſent moment?

The only way that occurs to me of removing this difficulty, is by ſuppoſing, that the remembrance of a paſt event is not a ſimple act of the mind; but that the mind firſt forms a conception of the event, and then judges, from circumſtances, of the period of time to which it is to be referred: a ſuppoſition which is by no means a gratuitous one, invented to anſwer a particular purpoſe; but which, as far as I am able to judge, is agreeable to fact; for if we have the power, as will not be diſputed, of conceiving a paſt event without any reference to time, it follows, that there is nothing in the ideas or notions which memory preſents to us, which is neceſſarily accompanied with a belief of paſt exiſtence, in a way analogous to that in which our perceptions are accompanied with a belief of the preſent exiſtence of their objects; and therefore, that the reference of the event to the particular period at which it happened, is a judgment founded on concomitant circumſtances. So long as we are occupied with the conception of any particular object connected with the event, we believe the preſent exiſtence of the object; but this belief, which, in moſt caſes, is only momentary, is inſtantly corrected by habits of judging acquired by experience; and as

ſoon as the mind is diſengaged from ſuch a belief, it is left at liberty to refer the event to the period at which it actually happened. Nor will the apparent inſtantaneouſneſs of ſuch judgments be conſidered as an unſurmountable objection to the doctrine now advanced, by thoſe who have reflected on the perception of diſtance obtained by ſight, which although it ſeems to be as immediate as any perception of touch, has been ſhewn by philoſophers to be the reſult of a judgment founded on experience and obſervation. The reference we make of paſt events to the particular points of time at which they took place, will, I am inclined to think, the more we conſider the ſubject, be found the more ſtrikingly analogous to the eſtimates of diſtance we learn to form by the eye.

Although, however, I am, myſelf, ſatisfied with the concluſion to which the foregoing reaſonings lead, I am far from expecting that the caſe will be the ſame with all my readers. Some of their objections, which I can eaſily anticipate, might, I believe, be obviated by a little farther diſcuſſion; but as the queſtion is merely a matter of curioſity, and has no neceſſary connexion with the obſervations I am to make in this chapter, I ſhall not proſecute the ſubject at preſent. The opinion, indeed, we form concerning it, has no reference to any of the doctrines maintained in this work, excepting to a particular ſpeculation concerning the belief accompanying conception, which I ventured to ſtate, in treating of that ſubject, and which, as it appears to be extremely doubtful to ſome whoſe opinions I reſpect, I propoſed with a degree of diffidence ſuitable to the difficulty of ſuch an inquiry. The remaining obſervations which I am to make on the power of memory, whatever opinion may be formed of their importance, will furniſh but little room for a diverſity of judgment concerning their truth.

In considering this part of our constitution, one of the most obvious and striking questions that occurs is, what the circumstances are which determine the memory to retain some things in preference to others? Among the subjects which successively occupy our thoughts, by far the greater number vanish without leaving a trace behind them; while others become, as it were, a part of ourselves, and by their accumulations, lay a foundation for our perpetual progress in knowledge. Without pretending to exhaust the subject, I shall content myself at present with a partial solution of this difficulty, by illustrating the dependence of memory upon two principles of our nature, with which it is plainly very intimately connected; attention, and the association of ideas.

I endeavoured in a former chapter to shew, that there is a certain act of the mind, (distinguished, both by philosophers and the vulgar, by the name of attention) without which even the objects of our perceptions make no impression on the memory. It is also matter of common remark, that the permanence of the impression which any thing leaves in the memory, is proportioned to the degree of attention which was originally given to it. The obser-

* It seems to be owing to this dependence of memory on attention, that it is easier to get by heart a composition, after a very few readings, with an attempt to repeat it at the end of each than after a hundred readings without such an effort. The effort rouses the atttention from that languid state in which it remains, while the mind is giving a passive reception to foreign ideas. The fact is remarked by Lord Bacon, and is explained byhim on the same principle to which I have referred it.

"Quæ expectantur et attentionem excitant, melius hærent quam quæ prætervolant. Itaque si scriptum aliquod vicies perlegeris, non tam facile illud memoriter discs, quam si illud legas decies, tentando interim illud recitare, et ubi deficit memoria, inspiciendo librum."

BACON, *Nov. Org.* lib. ii. aph. xxvi.

vation has been so often repeated, and is so manifestly true, that it is unnecessary to offer any illustration of it.*

I have only to observe farther, with respect to attention, considered in the relation in which it stands to memory, that although it be a voluntary act, it requires experience to have it always under command. In the case of objects to which we have been taught to attend at an early period of life, or which are calculated to rouse the curiosity, or to affect any of our passions, the attention fixes itself upon them, as it were spontaneously, and without any effort on our part, of which we are conscious. How perfectly do we remember, and even retain, for a long course of years, the faces and the handwritings of our acquaintances, although whenever I took any particular pains to fix them in the memory? On the other hand, if an object does not interest some principle of our nature, we may examine it again and again, with a wish to treasure up the knowledge of it in the mind, without our being able to command that degree of attention which may lead us to recognize it the next time we see it. A person, for example, who has not been accustomed to attend particularly to horses or to cattle, may study for a considerable time the appearance of a horse or of a bullock, without being able a few days afterwards to pronounce on his identity; while a horse-dealer or a grazier recollects many hundreds of that class of animals with which he is conversant as perfectly as he does the faces of his acquaintances. In order to account for this, I would remark, that although attention be a voluntary act, and although we are always able, when we choose, to make a momentary exertion of it; yet, unless the object to which it is directed be really interesting, in some degree, to the curiosity, the train of our ideas goes on, and we immediately forget our purpose. When we are employed, therefore, in studying such an

object, it is not an exclusive and steady attention that we give to it, but we are losing sight of it, and recurring to it every instant; and the painful efforts of which we are conscious, are not (as we are apt to suppose them to be) efforts of uncommon attention, but unsuccessful attempts to keep the mind steady to its object, and to exclude the extraneous ideas, which are from time to time soliciting its notice.

If these observations be well founded, they afford an explanation of a fact which has been often remarked, that objects are easily remembered which affect any of the passions.* The passion assists the memory, not in consequence of any immediate connexion between them, but as it presents, during the time it continues, a steady and exclusive object to the attention.

The connexion between memory and the association of ideas is so striking, that it has been supposed by some, that the whole of its phenomena might be resolved into this principle. But this is evidently not the case. The association of ideas connects our various thoughts with each other, so as to present them to the mind in a certain order; but it presupposes the existence of these thoughts in the mind; or, in other words, it presupposes a faculty of retaining the knowledge which we acquire. It involves also a power of recognizing, as former objects of attention, the thoughts that from time to time occur to us; a power which is not implied in that law of our nature which is called the association of ideas. It is possible, surely, that our thoughts might have succeeded each other, accor-

* "Si quas res in vita videmus parvas, usitatas, quotidianas, eas meminisse non solemus; propterea quod nulla nisi nova aut admirabili re commovetur animus. At si quid videmus aut audimus egregie turpe, aut honestum, inusitatum, magnum, incredibile, ridiculum, id diu meminisse consuevimus."—*Ad Herenn.* lib. 3.

ding to the same laws as at present, without suggesting to us at all the idea of the past; and, in fact, this supposition is realized to a certain degree in the case of some old men, who retain pretty exactly the information which they receive, but are sometimes unable to recollect in what manner the particulars which they find connected together in their thoughts, at first came into the mind; whether they occurred to them in a dream, or were communicated to them in conversation.

On the other hand, it is evident, that without the associating principle, the powers of retaining our thoughts, and of recognizing them, when they occur to us, would have been of little use; for the most important articles of our knowledge might have remained latent in the mind, even when those occasions presented themselves to which they are immediately applicable. In consequence of this law of our nature, not only are all our various ideas made to pass, from time to time, in review before us, and to offer themselves to our choice, as subjects of meditation, but when an occasion occurs which calls for the aid of our past experience, the occasion itself recalls to us all the information upon the subject which that experience has accumulated.

The foregoing observations comprehend an analysis of memory sufficiently accurate for my present purpose: some other remarks, tending to illustrate the same subject more completely, will occur in the remaining sections of this chapter.

It is hardly necessary for me to add, that when we have proceeded so far in our inquiries concerning memory, as to obtain an analysis of that power and to ascertain the relation in which it stands to the other principles of our constitution, we have advanced as far towards an explanation of it as the nature of the subject permits. The various theories which have attempted to account for it by traces or impressions in the sensorium, are obviously

too unphilosophical to deserve a particular refutation.* Such, indeed, is the poverty of language, that we cannot speak on the subject, without employing expressions which suggest one theory or another; but it is of importance for us always to recollect, that these expressions are entirely figurative and afford no explanation of the phenomena to which they refer. It is partly with a view to remind my readers of this consideration that finding it impossible to lay aside completely metaphorical or analogical words, I have studied to avoid such an uniformity in the employment of them, as might indicate a preference to one theory rather than another; and, by doing so, have, perhaps, sometimes been led to vary the metaphor oftener and more suddenly, than would be proper in a composition which aimed at any degree of elegance. This caution in the use of the common language concerning memory, it seemed to me the more necessary to attend to, that the general dispositon which every person feels, at the commencement of his philosophical pursuits, to explain the phenomena of thought by the laws of matter, is, in the case of this particular faculty, encouraged by a variety of peculiar circumstances. The analogy between committing a thing to memory that we wish to remember, and engraving on a tablet a fact that we wish to record is so striking as to present itself even to the vulgar; nor is it perhaps less natural to indulge the fancy in considering memory as a sort of repository, in which we arrange and preserve for future use the materials of our information. The immediate dependence, too, of this faculty on the state of the body, which is more remarkable than that of any other faculty whatever, (as appears from the effects produced on it by old age, disease, and intoxication) is apt to strike those who have been much conversant

* See Note [S.]

with theſe inquiries, as beſtowing ſome plauſibility on the theory which attempts to explain its phenomena on mechanical principles.

I cannot help taking this opportunity of expreſſing a wiſh, that medical writers would be at more pains than they have been at hitherto, to aſcertain the various effects which are produced on the memory by diſeaſe and old age. The effects are widely diverſified in different caſes. In ſome it would ſeem that the memory is impaired, in conſequence of a diminution of the power of attention; in others, that the power of recollection is diſturbed in conſequence of a derangement of that part of the conſtitution on which the aſſociation of ideas depends. The decay of memory, which is the common effect of age, ſeems to ariſe from the former of theſe cauſes. It is probable, that, as we advance in years the capacity of attention is weakened by ſome phyſical change in the conſtitution; but it is alſo reaſonable to think, that it loſes its vigour partly from the effect which the decay of our ſenſibility, and the extinction of our paſſions, have, in diminiſhing the intereſt which we feel in the common occurrences of life. That no derangement takes place, in ordinary caſes, in that part of the conſtitution on which the aſſociation of ideas depends, appears from the diſtinct and circumſtantial recollection which old men retain of the tranſactions of their youth.* In ſome diſeaſes, this part of the conſti-

* Swift ſomewhere expreſſes his ſurprize, that old men ſhould remember their anecdotes ſo diſtinctly, and ſhould, notwithſtanding, have ſo little memory as to tell the ſame ſtory twice in the courſe of the ſame converſation: and a ſimilar remark is made by Montaigne, in one of his Eſſays: "Surtout les Vieillards ſont dangereux, à qui la ſouvenance "des choſes paſſés demeure, et ont perdu la ſouvenance de "leurs redites."—Liv. i. chap. ix. (Des Menteurs.)

The fact ſeems to be, that all their old ideas remain in the mind connected as formerly by the different aſſociating principles; but that the power of attention to new ideas and new occurrences is impaired.

tution is evidently affected. A ſtroke of the palſy has been known, (while it did not deſtroy the power of ſpeech) to render the patient incapable of recollecting the names of the moſt familiar objects. What is ſtill more remarkable, the name of an object has been known to ſuggeſt the idea of it as formerly, although the ſight of the object ceaſed to ſuggeſt the name.

In ſo far as this decay of memory which old age brings along with it, is a neceſſary conſequence of a phyſical change in the conſtitution, or a neceſſary conſequence of a diminution of ſenſibility it is the part of a wiſe man to ſubmit cheerfully to the lot of his nature. But it is unreaſonable to think, that ſomething may be done by our own efforts, to obviate the inconveniences which commonly reſult from it. If individuals, who, in the early part of life, have weak memories, are ſometimes able to remedy this defect, by a greater attention to arrangement in their tranſactions and to claſſification among their ideas, than is neceſſary to the bulk of mankind, might it not be poſſible, in the ſame way, to ward off, at leaſt to a certain degree the encroachments which time makes on this faculty? The few old men who continue in the active ſcenes of life to the laſt moment, it has been often remarked, complain, in general, much leſs of a want of recollection, than their cotemporaries. This is undoubtedly owing partly to the effect which the purſuits of buſineſs muſt neceſſarily have, in keeping alive the power of attention. But it is probably owing alſo to new habits of arrangement, which the mind gradually and inſenſibly forms, from the experience of its growing infirmities. The apparent revival of memory in old men, after a temporary decline, (which is a caſe that happens not unfrequently) ſeems to favour this ſuppoſition.

One old man, I have, myſelf, had the good fortune to know, who after a long, an active, and an

honourable life, having begun to feel ſome of the uſual effects of advanced years, has been able to find reſources in his own ſagacity, againſt moſt of the inconveniencies with which they are commonly attended; and who, by watching his gradual decline with the cool eye of an indifferent obſerver, and employing his ingenuity to retard its progreſs, has converted even the infirmities of age into a ſource of philoſophical amuſement.

SECTION II.

Of the Varieties of Memory in Different Individuals.

IT is generally ſuppoſed, that, of all our faculties memory is that which nature has beſtowed in the moſt unequal degrees on different individuals; and it is far from being impoſſible that this opinion may be well-founded. If, however, we conſider, that there is ſcarcely any man who has not memory ſufficient to learn the uſe of language and to learn to recognize, at the firſt glance, the appearances of an infinite number of familiar objects; beſides acquiring ſuch an acquaintance with the laws of nature, and the ordinary courſe of human affairs, as is neceſſary for directing his conduct in life; we ſhall be ſatisfied that the original diſparities among men, in this reſpect, are, by no means ſo immenſe as they ſeem to be at firſt view; and that much is to be aſcribed to different habits of attention, and to a difference of ſelection among the various objects and events preſented to their curioſity.

As the great purpoſe to which this faculty is ſubſervient, is to enable us to collect and to retain, for the future regulation of our conduct, the reſults of our paſt experience; it is evident that the

degree of perfection which it attains in the case of different persons, must vary; first, with the facility of making the original acquisition; secondly, with the permanence of the acquisition: and thirdly, with the quickness or readiness with which the individual is able, on particular occasions, to apply it to use. The qualities, therefore, of a good memory are, in the first place, to be susceptible; secondly to be retentive; and thirdly, to be ready.

It is but rarely that these three qualities are united in the same person. We often, indeed, meet with a memory which is at once susceptible and ready; but I doubt much, if such memories be commonly very retentive: for, susceptibility and readiness are both connected with a facility of associating ideas, according to their more obvious relations; whereas retentiveness or tenaciousness of memory, depends principally on what is seldom united with this facility, a disposition to system and to philosophical arrangement. These observations it will be necessary to illustrate more particularly.

I have already remarked, in treating of a different subject, that the bulk of mankind, being but little accustomed to reflect and to generalise, associate their ideas chiefly according to their more obvious relations; those, for example, of resemblance and of analogy; and above all, according to the casual relations arising from contiguity in time and place: whereas in the mind of the philosopher, ideas are commonly associated according to those relations which are brought to light in consequence of particular efforts of attention; such as the relations of cause and effect, or of premises and conclusion. This difference in the modes of association of these two classes of men, is the foundation of some very striking diversities between them in respect of intellectual character.

In the first place in consequence of the nature of the relations which connect ideas together in the

mind of the philoſopher, it muſt neceſſarily happen, that when he has occaſion to apply to uſe his acquired knowledge, time and reflexion will be requiſite to enable him to recollect it. In the caſe of thoſe on the other hand, who have not been accuſtomed to ſcientific purſuits; as their ideas are connected together according to the moſt obvious relations; when any one idea of a claſs is preſented to the mind, it is immediately followed by the others, which ſucceed each other ſpontaneouſly according to the laws of aſſociation. In managing, therefore the little details of ſome ſubaltern employment, in which all that is required, is a knowledge of forms and a diſpoſition to obſerve them, the want of a ſyſtematical genius is an important advantage; becauſe this want renders the mind peculiarly ſuſceptible of habits and allows the train of its ideas to accommodate itſelf perfectly to the daily and hourly occurrences of its ſituation. But if, in this reſpect, men of no general principles have an advantage over the philoſopher, they fall greatly below him in another point of view; inaſmuch as all the information, which they poſſeſs, muſt neceſſarily be limited by their own proper experience; whereas the philoſopher, who is accuſtomed to refer every thing to general principles, is not only enabled by means of theſe, to arrange the facts which experience has taught him, but by reaſoning from his principles ſynthetically, has it often in his power to determine facts *a priori*, which he has no opportunity of aſcertaining by obſervation.

It follows farther, from the foregoing principles, that the intellectual defects of the philoſopher, are of a much more corrigible nature, than thoſe of the mere man of detail. If the former is thrown by accident into a ſcene of buſineſs, more time will perhaps be neceſſary to qualify him for it, than would be requiſite for the generality of mankind; but time and experience will infallibly, ſooner or later,

familiarize his mind completely with his ſituation. A capacity for ſyſtem and for philoſophical arrangement, unleſs it has been carefully cultivated in early life, is an acquiſition which can ſcarcely ever be made afterwards; and therefore the defects which I already mentioned, as connected with early and conſtant habits of buſineſs, adopted from imitation and undirected by theory; may, when once theſe habits are confirmed, be pronounced to be incurable.

I am alſo inclined to believe, both from a theoretical view of the ſubject, and from my own obſervations as far as they have reached, that if we wiſh to fix the particulars of our knowledge very permanently in the memory, the moſt effectual way of doing it, is to refer them to general principles. Ideas which are connected together merely by caſual relations, preſent themſelves with readineſs to the mind ſo long as we are forced by the habits of our ſituation to apply them daily to uſe; but when a change of circumſtances leads us to vary the objects of our attention, we find our old ideas gradually to eſcape from the recollection: and if it ſhould happen that they eſcape from it altogether, the only method of recovering them, is by renewing thoſe ſtudies by which they were at firſt acquired. The caſe is very different with a man whoſe ideas, preſented to him at firſt by accident, have been afterwards philoſophically arranged and referred to general principles. When he wiſhes to recollect them, ſome time and reflexion will, frequently, be neceſſary to enable him to do ſo; but the information which he has once completely acquired, continues, in general, to be an acquiſition for life; or if, accidentally, any article of it ſhould be loſt, it may often be recovered by a proceſs of reaſoning.

Something very ſimilar to this happens in the ſtudy of languages. A perſon who acquires a foreign language merely by the ear, and without any knowledge of its principles, commonly ſpeaks it,

while he remains in the country where it is ſpoken, with more readineſs and fluency, than one who has ſtudied it grammatically; but in the courſe of a few years abſence, he finds himſelf almoſt as ignorant of it as before he acquired it. A language, of which we once underſtand the principles thoroughly, it is hardly poſſible to loſe by diſuſe.

A philoſophical arrangement of our ideas, is attended with another very important advantage. In a mind where the prevailing principles of aſſociation are founded on caſual relations among the various objects of its knowledge, the thoughts muſt neceſſarily ſucceed each other in a very irregular and diſorderly manner; and the occaſions on which they preſent themſelves, will be determined merely by accident. They will often occur, when they cannot be employed to any purpoſe; and will remain concealed from our view, when the recollection of them might be uſeful. They cannot therefore be conſidered as under our own proper command. But in the caſe of a philoſopher, how ſlow ſoever he may be in the recollection of his ideas, he knows always where he is to ſearch for them, ſo as to bring them all to bear on their proper object. When he wiſhes to avail himſelf of his paſt experience, or of his former concluſions, the occaſion, itſelf, ſummons up every thought in his mind which the occaſion requires. Or if he is called upon to exert his powers of invention, and of diſcovery, the materials of both are always at hand, and are preſented to his view with ſuch a degree of connexion and arrangement, as may enable him to trace, with eaſe, their various relations. How much, invention depends upon a patient and attentive examination of our ideas, in order to diſcover the leſs obvious relations which ſubſiſt among them, I had occaſion to ſhow, at ſome length, in a former chapter.

The remarks which have been now made, are ſufficient to illuſtrate the advantages which the phi-

loſopher derives, in the purſuits of ſcience, from that ſort of ſyſtematical memory which his habits of arrangement give him. It may however be doubted, whether ſuch habits be equally favourable to a talent for agreeable converſation; at leaſt, for that lively, varied, and unſtudied converſation, which forms the principal charm of a promiſcuous ſociety. The converſation which pleaſes generally, muſt unite the recommendations of quickneſs, of eaſe, and of of variety: and in all theſe three reſpects, that of the philoſopher is apt to be deficient. It is deficient in quickneſs, becauſe his ideas are connected by relations which occur only to an attentive and collected mind. It is deficient in eaſe, becauſe theſe relations are not the caſual and obvious ones, by which ideas are aſſociated in ordinary memories; but the ſlow diſcoveries of patient, and often painful, exertion. As the ideas, too, which he aſſociates together, are commonly of the ſame claſs, or at leaſt are referred to the ſame general principles, he is in danger of becoming tedious, by indulging himſelf in long and ſyſtematical diſcourſes; while another, poſſeſſed of the moſt inferior accompliſhments, by laying his mind completely open to impreſſions from without, and by accommodating continually the courſe of his own ideas, not only to the ideas which are ſtarted by his companions, but to every trifling and unexpected accident that may occur to give them a new direction, is the life and ſoul of every ſociety into which he enters. Even the anecdotes which the philoſopher has collected, however agreeable they may be in themſelves, are ſeldom introduced by him into converſation, with that unſtudied but happy propriety, which we admire in men of the world, whoſe facts are not referred to general principles, but are ſuggeſted to their recollection by the familiar topics and occurrences of ordinary life. Nor is it the imputation of tediouſneſs merely, to which the ſyſtematical thinker muſt ſubmit from common obſervers. It

is but rarely poſſible to explain completely, in a promiſcuous ſociety, all the various parts of the moſt ſimple theory and as nothing appears weaker or more abſurd than a theory which is partially ſtated, it frequently happens, that men of ingenuity, by attempting it, ſink, in the vulgar apprehenſion, below the level of ordinary underſtandings. "Theoriarum vires" (ſays Lord Bacon) "in apta et "ſe mutuo ſuſtinente partium harmonia, et quadam "in orbem demonſtratione conſiſtunt, ideoque per "partes traditæ infirmæ ſunt."

Before leaving the ſubject of caſual memory, it may not be improper to add, that, how much ſoever it may diſqualify for ſyſtematical ſpeculation, there is a ſpecies of looſe and rambling compoſition to which it is peculiarly favourable. With ſuch performances, it is often pleaſant to unbend the mind in ſolitude, when we are more in the humour for converſation, than for connected thinking. Montaigne is unqueſtionably at the head of this claſs of authors. "What, indeed, are his Eſſays," (to adopt his account of them) "but groteſque pieces "of patch-work, put together without any certain "figure; or any order, connexion, or proportion, "but what is accidental?"*

It is, however, curious, that in conſequence of the predominance in the mind of this ſpecies of memory above every other, he is forced to acknowledge his total want of that command over his ideas, which can only be founded on habits of ſyſtematical arrangement. As the paſſage is extremely characteriſtical of the author, and affords a ſtriking confirmation of ſome of the preceding obſervations, I ſhall give it in his own words. "Je ne "me tiens pas bien en ma poſſeſſion et diſpoſition: "le hazard y a plus de droit que moy: l'occaſion "la compagnie, le bran le même de ma voix tire

* Liv. i. chap. 27.

" plus de mon eſprit, que je n'y trouve lors que je " ſonde et employe à part moy. Ceci m'advient " auſſi, que je ne me trouve pas ou je me cherche ; " et me trouve plus par recontre, que par l'inquiſi- " tion de mon judgment."*

The differences which I have now pointed out between philoſophical and caſual memory, conſtitute the moſt remarkable of all the varieties which the minds of different individuals, conſidered in reſpect of this faculty, preſent to our obſervation. But there are other varieties, of a leſs ſtriking nature, the conſideration of which may alſo ſuggeſt ſome uſeful reflexions.

It was before remarked, that our ideas are frequently aſſociated, in conſequence of the aſſociations which take place among their arbitrary ſigns. Indeed, in the caſe of all our general ſpeculations, it is difficult to ſee in what other way our thoughts can be aſſociated; for, I before endeavoured to ſhew, that, without the uſe of ſigns of one kind or another, it would be impoſſible forus to make claſſes or genera, objects of our attention.

All the ſigns by which our thoughts are expreſſed are addreſſed either to the eye or to the ear; and the impreſſions made on theſe organs, at the time when we firſt receive an idea, contribute to give us a firmer hold of it. Viſible objects (as I obſerved in the chapter on conception) are remembered more eaſily than thoſe of any of our other ſenſes; and hence it is, that the bulk of mankind are more aided in their recollection by the impreſſions made on the eye, than by thoſe made on the ear. Every perſon muſt have remarked, in ſtudying the elements of geometry, how much his recollection of the theorems was aided, by the diagrams which are connected with them : and I have little doubt,

* Liv. i. chap. 10. (Du parler prompt ou tardif.)

that the difficulty which ſtudents commonly find to remember the propoſitions of the fifth book of Euclid, ariſes chiefly from this, that the magnitudes to which they relate, are repreſented by ſtraight lines, which do not make ſo ſtrong an impreſſion on the memory, as the figures which illuſtrate the propoſitions in the other five books.

This advantage, which the objects of ſight naturally have over thoſe of hearing, in the diſtinctneſs and the permanence of the impreſſions which they make on the memory, continues, and even increaſes, through life, in the caſe of the bulk of mankind; becauſe their minds, being but little addicted to general and abſtract diſquiſition, are habitually occupied, either with the immediate perception of ſuch objects, or with ſpeculations in which the conception of them is more or leſs involved; which ſpeculations, ſo far as they relate to individual things and individual events, may be carried on with little or no aſſiſtance from language.

The caſe is different with the philoſopher, whoſe habits of abſtraction and generaliſation lay him continually under a neceſſity of employing words as an inſtrument of thought. Such habits co-operating with that inattention, which he is apt to contract to things external, muſt have an obvious tendency to weaken the original powers of recollection and conception with reſpect to viſible objects; and, at the ſame time, to ſtrengthen the power of retaining propoſitions and reaſonings expreſſed in language. The common ſyſtem of education, too, by exerciſing the memory ſo much in the acquiſition of grammar rules, and of paſſages from the ancient authors, contributes, greatly, in the caſe of men of letters, to cultivate a capacity for retaining words.

It is ſurpriſing, of what a degree of culture, our power of retaining a ſucceſſion, even of inſignificant ſounds, is ſuſceptible. Inſtances ſometimes occur, of men who are eaſily able to commit to memory, a

long poem, compoſed in a language of which they are wholly ignorant; and I have, myſelf, known more than one inſtance, of an individual, who, after having forgotten completely the claſſical ſtudies of his childhood, was yet able to repeat, with fluency, long paſſages from Homer and Virgil, without annexing an idea to the words that he uttered.

This ſuſceptibility of memory with reſpect to words, is poſſeſſed by all men in a very remarkable degree in their early years, and is indeed, neceſſary to enable them to acquire the uſe of language; but unleſs it be carefully cultivated afterwards by conſtant exerciſe, it gradually decays as we advance to maturity. The plan of education which is followed in this country, however imperfect in many reſpects, falls in happily with this arrangement of nature, and ſtores the mind richly, even in infancy, with intellectual treaſures, which are to remain with it through life. The rules of grammar, which comprehend ſyſtems more or leſs perfect, of the principles of the dead languages, take a permanent hold of the memory, when the underſtanding is yet unable to comprehend their import; and the claſſical remains of antiquity, which, at the time we acquire them, do little more than furniſh a gratification to the ear, ſupply us with inexhauſtible ſources of the moſt refined enjoyment; and, as our various powers gradually unfold themſelves, are poured forth, without effort, from the memory, to delight the imagination, and to improve the heart. It cannot be doubted, that a great variety of other articles of uſeful knowledge, particularly with reſpect to geographical and chronological details might be communicated with advantage to children, in the form of memorial lines. It is only in childhood, that ſuch details can be learned with facility; and if they were once acquired, and rendered perfectly familiar to the mind, our riper years would be ſpared much of that painful and unintereſting la-

bour, which is perpetually diſtracting our intellectual powers, from thoſe more important exertions for which in their mature ſtate, they ſeem to be deſtined.

This tendency of literary habits in general, and more particularly of philoſophical purſuits to exerciſe the thoughts about words, can ſcarcely fail to have ſome effect in weakening the powers of recollection and conception with reſpect to ſenſible objects; and, in fact, I believe it will be found that whatever advantage the philoſopher may poſſeſs over men of little education, in ſtating general propoſitions and general reaſonings, he is commonly inferior to them in point of minuteneſs and accuracy, when he attempts to deſcribe any object which he has ſeen, or any event which he has witneſſed; ſuppoſing the curioſity of both, in ſuch caſes, to be intereſted in an equal degree. I acknowledge, indeed, that the undivided attention, which men unaccuſtomed to reflexion are able to give to the objects of their perceptions, is, in part, the cauſe of the livelineſs and correctneſs of their conceptions.

With this diverſity in the intellectual habits of cultivated and of uncultivated minds, there is another variety of memory which ſeems to have ſome connexion. In recognizing viſible objects, the memory of one man proceeds on the general appearance, that of another attaches itſelf to ſome minute and diſtinguiſhing marks. A peaſant knows the various kinds of trees from their general habits; a botaniſt, from thoſe characteriſtical circumſtances on which his claſſification proceeds. The laſt kind of memory is, I think, moſt common among literary men, and ariſes from their habit of recollecting by means of words. It is evidently much eaſier to expreſs by a deſcription, a number of botanical marks, than the general habit of a tree; and the ſame remark is applicable to other caſes of a ſimilar nature. But to whatever cauſe we aſcribe it, there can be no

doubt of the fact, that many individuals are to be found, and chiefly among men of letters, who although they have no memory for the general appearances of objects, are yet able to retain, with correctneſs, an immenſe number of technical diſcriminations.

Each of theſe kinds of memory, has its peculiar advantages and inconveniences, which the dread of being tedious induces me to leave to the inveſtigation of my readers.

SECTION III.

Of the Improvement of Memory.——Analyſis of the Principles on which the Culture of memory depends.

THE improvement of which the mind is ſuſceptible by culture, is more remarkable, perhaps, in the caſe of memory, than in that of any other of our faculties. The fact has been often taken notice of in general terms; but I am doubtful if the particular mode in which culture operates on this part of our conſtitution, has been yet examined by philoſophers, with the attention which it deſerves.

Of one ſort of culture, indeed, of which memory is ſuſceptible in a very ſtriking degree, no explanation can be given; I mean the improvement which the original faculty acquires by mere exerciſe; or in other words, the tendency which practice has to increaſe our natural facility of aſſociation. This effect of practice upon the memory, ſeems to be an ultimate law of our nature, or rather to be a particular inſtance of that general law, that all our powers, both of body and mind, may be ſtrengthened, by applying them to their proper purpoſes.

Beſides, however, the improvement which memory admits of, in conſequence of the effects of exer-

cise on the original faculty, it may be greatly aided in its operations, by those expedients which reason and experience suggest for employing it to the best advantage. These expedients furnish a curious subject of philosophical examination: perhaps, too, the inquiry may not be altogether without use; for although our principal resources for assisting the memory be suggested by nature, yet it is reasonable to think, that in this, as in similar cases, by following out systematically the hints which she suggests to us, a farther preparation may be made for our intellectual improvement.

Every person must have remarked, in entering upon any new species of study, the difficulty of treasuring up in the memory its elementary principles; and the growing facility which he acquires in this respect, as his knowledge becomes more extensive. By analysing the different causes which concur in producing this facility, we may, perhaps, be led to some conclusions which may admit of a practical application.

1. In every science, the ideas about which it is peculiarly conversant, are connected together by some particular associating principle; in one science, for example, by associations founded on the relation of cause and effect; in another, by associations founded on the necessary relations of mathematical truths; in a third, on associations founded on contiguity in place or time. Hence one cause of the gradual improvement of memory with respect to the familiar objects of our knowledge; for whatever be the prevailing associating principle among the ideas about which we are habitually occupied, it must necessarily acquire additional strength from our favourite study.

2. In proportion as a science becomes more familiar to us, we acquire a greater command of attention with respect to the objects about which it is conversant; for the information which we already

poſſeſs, gives us intereſt in every new truth, and every new fact which have any relation to it. In moſt caſes, our habits of inattention may be traced to a want of curioſity; and therefore ſuch habits are to be corrected, not by endeavouring to force the attention in particular inſtances, but by gradually learning to place the ideas which we wiſh to remember, in an intereſting point of view.

3. When we firſt enter on any new literary purſuit, we are unable to make a proper diſcrimination in point of utility and importance, among the ideas which are preſented to us; and by attempting to graſp at every thing, we fail in making thoſe moderate acquiſitions which are ſuited to the limited powers of the human mind. As our information extends, our ſelection becomes more judicious and more confined; and our knowledge of uſeful and connected truths advances rapidly, from our ceaſing to diſtract the attention with ſuch as are detached and inſignificant.

4. Every object of our knowledge is related to a variety of others; and may be preſented to the thoughts, ſometimes by one principle of aſſociation, and ſometimes by another. In proportion, therefore, to the multiplication of mutual relations among our ideas, (which is the natural reſult of growing information, and in particular, of habits of philoſophical ſtudy,) the greater will be the number of occaſions on which they will recur to the recollection, and the firmer will be the root which each idea, in particular, will take in the memory.

It follows, too, from this obſervation, that the facility of retaining a new fact, or a new idea, will depend on the number of relations which it bears the former objects of our knowledge; and, on the other hand, that every ſuch acquiſition, ſo far from loading the memory, gives us a firmer hold of all that part of our previous information, with which it is in any degree connected.

It may not, perhaps, be improper to take this opportunity of obſerving, although the remark be not immediately connected with our preſent ſubject, that the acceſſion made to the ſtock of our knowledge, by the new facts and ideas which we acquire, is not to be eſtimated merely by the number of theſe facts and ideas conſidered individually; but by the number of relations which they bear to one another, and to all the different particulars which were previouſly in the mind; for, "new knowledge," (as Mr. Maclaurin has well remarked,*) "does not conſiſt ſo much in our having acceſs to "a new object, as in comparing it with others already known, obſerving its relations to them, or "diſcerning what it has in common with them, and "wherein their diſparity conſiſts: and therefore, "our knowledge is vaſtly greater than the ſum of "what all its objects ſeparately could afford; and "when a new object comes within our reach, the "addition to our knowledge is the greater, the "more we already know; ſo that it increaſes, not "as the new objects increaſe, but in a much higher "proportion."

5. In the laſt place, the natural powers of memory are, in the caſe of the philoſopher, greatly aided by his peculiar habits of claſſification and arrangement. As this is by far the moſt important improvement of which memory is ſuſceptible, I ſhall conſider it more particularly than any of the others I have mentioned.

The advantages which the memory derives from a proper claſſification of our ideas may be beſt conceived by attending to its effects in enabling us to conduct, with eaſe, the common buſineſs of life. In what inextricable confuſion would the lawyer or the merchant be immediately involved, if he were to depoſit, in the cabinet, promiſcuouſly, the vari-

* See the Concluſion of his View of Newton's Diſcoveries.

ous written documents which daily and hourly paſs through his hands? Nor could this confuſion be prevented by the natural powers of memory, however vigorous they might happen to be. By a proper diſtribution of theſe documents, and a judicious reference of them to a few general titles, a very ordinary memory is enabled to accompliſh more, than the moſt retentive, unaſſiſted by method. We know, with certainty, where to find any article we may have occaſion for, if it be in our poſſeſſion; and the ſearch is confined within reaſonable limits, inſtead of being allowed to wander at random amidſt a chaos of particulars.

Or, to take an inſtance ſtill more immediately applicable to our purpoſe: ſuppoſe that a man of letters were to record, in a common-place book, without any method, all the various ideas and facts which occurred to him in the courſe of his ſtudies; what difficulties would he perpetually experience in applying his acquiſitions to uſe? and how completely and eaſily might theſe difficulties be obviated, by refering the particulars of his information to certain general heads? It is obvious, too, that, by doing ſo he would not only have his knowledge much more completely under his command, but as the particulars claſſed together would all have ſome connexion, more or leſs, with each other, he would be enabled to trace, with advantage, thoſe mutual relations among his ideas, which it is the object of philoſophy to aſcertain.

A common-place book, conducted without any method, is an exact picture of the memory of a man whoſe inquiries are not directed by philoſophy. And the advantages of order in treaſuring up our ideas in the mind, are perfectly analogous to its effects when they are recorded in writing.

Nor is this all. In order to retain our knowledge diſtinctly and permanently, it is neceſſary that we ſhould frequently recal it to our recollection. But

how can this be done without the aid of arrangement? Or, supposing that it were possible, how much time and labour would be necessary for bringing under our review the various particulars of which our information is composed? In proportion as it is properly systematized, this time and labour are abridged. The mind dwells habitually, not on detached facts, but on a comparatively small number of general principles; and, by means of these, it can summon up, as occasions may require, an infinite number of particulars associated with them; each of which considered as a solitary truth, would have been as burdensome to the memory, as the general principle with which it is connected.

I would not wish it to be understood from these observations, that philosophy consists in classification alone; and that its only use is to assist the memory. I have often, indeed, heard this asserted in general terms; but it appears to me to be obvious, that although this be one of its most important uses, yet something more is necessary to complete the definition of it. Were the case otherwise, it would follow that all classifications are equally philosophical, provided they are equally conprehensive. The very great importance of this subject will, I hope, be a sufficient apology for me, in taking this opportunity to correct some mistaken opinions which have been formed concerning it.

SECTION IV.

Continuation of the same Subject.——Aid which the Memory derives from Philosophical Arrangement.

It was before observed, that the great use of the faculty of memory, is to enable us to treasure up, for the future regulation of our conduct, the

reſults of our paſt experience, and of our paſt reflexions. But in every caſe in which we judge of the future from the paſt, we muſt proceed on the belief, that there is, in the courſe of events, a certain degree, at leaſt, of uniformity. And, accordingly, this belief is not juſtified by experience, but (as Dr. Reid has ſhewn, in a very ſatisfactory manner) it forms a part of the original conſtitution of the human mind. In the general laws of the material world, this uniformity is found to be complete; inſomuch that, in the ſame combinations of circumſtances, we expect, with the moſt perfect aſſurance, that the ſame reſults will take place. In the moral world, the courſe of events does not appear to be equally regular; but ſtill it is regular, to ſo great a degree, as to afford us many rules of importance in the conduct of life.

A knowledge of Nature, in ſo far as it is abſolutely neceſſary for the preſervation of our animal exiſtence, is obtruded on us, without any reflexion on our part, from our earlieſt infancy. It is thus that children learn of themſelves to accommodate their conduct to the eſtabliſhed laws of the material world. In doing ſo, they are guided merely by memory, and the inſtinctive principle of anticipation, which has juſt been mentioned.

In forming concluſions concerning future events the philoſopher, as well as the infant, can only build with ſafety on paſt experience; and he, too, as well as the infant, proceeds on an inſtinctive belief, for which he is unable to account, of the uniformity of the laws of nature. There are, however, too, important reſpects, which diſtinguiſh the knowledge he poſſeſſes from that of ordinary men. In the firſt place, it is far more extenſive, in conſequence of the aſſiſtance, which ſcience gives to his natural powers of invention and diſcovery. Secondly, it is not only more eaſily retained in the memory, and more conveniently applied to uſe, in conſequence

of the manner in which his ideas are arranged; but it enables him to aſcertain, by a proceſs of reaſoning, all thoſe truths which may be ſynthetically deduced from his general principles. The illuſtration of theſe particulars will lead to ſome uſeful remarks; and will at the ſame time ſhew, that, in diſcuſſing the ſubject of the Section, I have not loſt ſight of the inquiry which occaſioned it.

I. 1. It was already remarked, that the natural powers of memory, together with that inſtinctive anticipation of the future from the paſt, which forms one of the original principles of the mind, are ſufficient to enable infants, after a very ſhort experience, to preſerve their animal exiſtence. The laws of nature, which it is not ſo important for us to know, and which are the objects of philoſophical curioſity, are not ſo obviouſly expoſed to our view, but are, in general brought to light by means of experiments which are made for the purpoſes of diſcovery; or, in other words, by artificial combinations of circumſtances, which we have no opportunity of ſeeing conjoined in the courſe of our ordinary experience. In this manner, it is evident, that many connexions may be aſcertained, which would never have occurred ſpontaneouſly to our obſervation.

2. There are, too, ſome inſtances, particularly in the caſe of the aſtronomical phenomena, in which events that appear to common obſervers to be altogether anomalous, are found, upon a more accurate and continued examination of them, to be ſubjected to a regular law. Such, in particular, are thoſe phenomena in the heavens, which we are able to predict by means of cycles. In the caſes formerly deſcribed, our knowledge of nature is extended by placing her in new ſituations. In theſe caſes, it is extended by continuing our obſervations beyond the limits of ordinary curioſity.

3. In the caſe of human affairs, ſo long as we

confine our attention to particulars, we do not observe the same uniformity, as in the phenomena of the material world. When, however, we extend our views to events which depend on a combination of different circumstances, such a degree of uniformity appears, as enables us to establish general rules, from which probable conjectures may often be formed with respect to futurity. It is thus, that we can pronounce, with much greater confidence, concerning the proportion of deaths which shall happen in a certain period among a given number of men, than we can predict the death of any individual; and that it is more reasonable to employ our sagacity, in speculating concerning the probable determinations of a numerous society, than concerning events which depend on the will of a single person.

In what manner this uniformity in events depending on contingent circumstances is produced, I shall not inquire at present. The advantages which we derive from it are obvious, as it enables us to collect from our past experience, many general rules both with respect to the history of political societies, and the characters and conduct of men in private life.

4. In the last place: the knowledge of the philosopher is more extensive than that of other men, in consequence of the attention which he gives, not merely to objects and events, but to the *relations* which different objects and different events bear to each other.

The observations and the experience of the vulgar are almost wholly limited to things perceived by the senses. A similarity between different objects, or between different events, rouses their curiosity, and leads them to classification, and to general rules. But similarity between different *relations* is seldom to be traced without previous habits of philosophical inquiry. Many such similarities or

connexions, are to be found in nature; and when once they are aſcertained, they frequently lead to important diſcoveries; not only with reſpect to other relations, but with reſpect to the objects or to the events which are related. Theſe remarks it will be neceſſary to illuſtrate more particularly.

The great object of Geometry is to aſcertain the relations which exiſt between different quantities, and the connexions which exiſt between different relations. When we demonſtrate, that the angle at the centre of a circle is double of the angle at the circumference on the ſame baſe, we aſcertain a relation between two quantites. When we demonſtrate that triangles, of the ſame altitude are to each other as their baſes, we aſcertain a connexion between two relations. It is obvious, how much the mathematical ſciences, muſt contribute to enlarge our knowledg of the univerſe, in conſequence of ſuch diſcoveries. In that ſimpleſt of all proceſſes of practical geometry, which teaches us to meaſure the height of an acceſſible tower, by comparing the length of its ſhadow with that of a ſtaff fixed vertically in the ground, we proceed on the principle that the relation between the ſhadow of the ſtaff and the height of the ſtaff is the ſame with the relation between the ſhadow of the tower and the height of the tower. But the former relation we can aſcertain by actual meaſurement; and, of conſequence, we not only obtain the other relation; but, as we can meaſure one of the related quantities, we obtain alſo the other quantity. In every caſe in which mathematics aſſiſts us in meaſuring the magnitudes or the diſtances of objects, it proceeds on the ſame principle; that is, it begins with aſcertaining connexions among different relations, and thus enables us to carry our inquiries from facts which are expoſed to the examination of our ſenſes, to the moſt remote parts of the univerſe.

I obſerved alſo, that there are various relations exiſting among phyſical events, and various connexions exiſting theſe relations. It is owing to this circumſtance, that mathematics is ſo uſeful an inſtrument in the hands of the phyſical inquirer. In that beautiful theorem of Huyghens, which demonſtrates, that the time of a complete oſcillation of a pendulum in the cycloid, is to the time in which a body would fall through the axis of the cycloid, as the circumference of a circle is to its diameter, we are made acquainted with a very curious and unexpected connexion between two relations; and the knowledge of this connexion facilitates the determination of a moſt important fact, with reſpect to the deſcent of heavy bodies near the earth's ſurface, which could not be aſcertained conveniently by a direct experiment.

In examining, with attention, the relations among different phyſical events, and the connexions among different relations, we ſometimes are led by mere induction to the diſcovery of a general law; while, to ordinary obſervers nothing appears but irregularity. From the writings of the earlier opticians we learn, that in examining the firſt principles of dioptrics, they were led by the analogy of the law of reflexion, to ſearch for the relation between the angles of incidence and refraction, (in the caſe of light paſſing from one medium into another) in the angles themſelves; and that ſome of them, finding this inquiry unſucceſsful, took the trouble to determine, by experiments (in the caſe of the media which moſt frequently fall under conſideration) the angle of refraction correſponding to every minute of incidence. Some very laborious tables, deduced from ſuch experiments, are to be found, in the words of Kircher. At length, Snellius diſcovered what is now called the law of refraction, which comprehends their whole contents in a ſingle ſentence.

The law of the planetary motions, deduced by Kepler, from the obſervations of Tycho Brahe, is another ſtriking illuſtration of the order, which an attentive inquirer is ſometimes able to trace, among the relations of phyſical events, when the events themſelves appear, on a ſuperficial view, to be perfectly anomalous.

Such laws are, in ſome reſpects, analogous to the cycles which I have already mentioned; but they differ from them in this, that a cycle is, commonly deduced from obſervations made on phyſical events which are obvious to the ſenſes; whereas the laws we have now been conſidering, are deduced from an examination of relations which are known only to men of ſcience. The moſt celebrated aſtronomical cycles, accordingly, are of a very remote antiquity, and were probably diſcovered at a period, when the ſtudy of aſtronomy conſiſted merely in accumulating and recording the more ſtriking appearances of the heavens.

II. Having now endeavoured to ſhew, how much philoſophy contributes to extend our knowledge of facts, by aiding our natural powers of invention and diſcovery, I proceed to explain, in what manner it ſupercedes the neceſſity of ſtudying particular truths by putting us in poſſeſſion of a comparatively ſmall number of general principles, in which they are involved.

I already remarked the aſſiſtance which philoſophy gives to the memory, in conſequence of the arrangement it introduces among our ideas. In this reſpect even a hypothetical theory may facilitate the recollection of facts; in the ſame manner in which the memory is aided in remembering the objects of natural hiſtory by artificial claſſifications.

The advantages, however, we derive from true philoſophy, are incomparably greater than what are to be expected from any hypothetical theories. Theſe, indeed, may aſſiſt us in recollecting the par-

ticulars we are already acquainted with; but it is only from the laws of nature, which have been traced analytically from facts, that we can venture, with safety, to deduce consequences by reasoning *a priori*. An example will illustrate and confirm this observation.

Suppose that a glass tube, thirty inches long, is filled with mercury, excepting eight inches, and is inverted as in the Torricellian experiment, so that the eight inches of common air may rise to the top; and that I wish to know at what height the mercury will remain suspended in the tube, the barometer being at that time twenty-eight inches high. There is here a combination of different laws which it is necessary to attend to, in order to be able to predict the result. 1. The air is a heavy fluid, and the pressure of the atmosphere is measured by the column of mercury in the barometer. 2. The air is an elastic fluid; and its elasticity at the earth's surface (as it resists the pressure of the atmosphere) is measured by the column of mercury in the barometer. 3. In different states, the elastic force of the air is reciprocally as the spaces which it occupies. But, in this experiment, the mercury which remains suspended in the tube, together with the elastic force of the air in the top of the tube, is a counterbalance to the pressure of the atmosphere; and therefore their joint effect must be equal to the pressure of a column of mercury twenty-eight inches high. Hence we obtain an algebraical equation, which affords an easy solution of the problem. It is further evident, that my knowledge of the physical laws which are here combined, puts it in my power to foretell the result, not only in this case, but in all cases of a similar nature which can be supposed. The problem, in any particular instance, might be solved by making the experiment; but the result would be of no use to me, if the slightest alteration were made on the data.

It is in this manner that philoſophy, by putting us in poſſeſſion of a few general facts, enables us to determine, by reaſoning, what will be the reſult of any ſuppoſed combination of them, and thus to comprehend an infinite variety of particulars which no memory, however vigorous, would have been able to retain. In conſequence of the knowledge of ſuch general facts, the philoſopher is relieved from the neceſſity of treaſuring up in his mind, all thoſe truths which are involved in his principles, and which may be deduced from them by reaſoning; and he can often proſecute his diſcoveries ſynthetically, in thoſe parts of the univerſe which he has no acceſs to examine by immediate obſervation There is, therefore, this important difference between a hypothetical theory, and a theory obtained by induction: that the latter not only enables us to remember the facts we already know, but to aſcertain by reaſoning, many facts which we have never had an opportunity of examining; whereas, when we reaſon from hypotheſis *a priori*, we are almoſt certain of running into error; and conſequently, whatever may be its uſe to the memory, it can never be truſted to, in judging of caſes which have not previouſly fallen within our experience.

There are ſome ſciences, in which hypothetical theories are more uſeful than in others; thoſe ſciences, to wit, in which we have occaſion for an extenſive knowledge and a ready recollection of facts and which, at the ſame time, are yet in too imperfect a ſtate to allow us to obtain juſt theories by the method of induction. This is particularly the caſe in the ſcience of medicine, in which we are under a neceſſity to apply our knowledge, ſuch as it is, to practice. It is alſo, in ſome degree, the caſe in agriculture. In the merely ſpeculative parts of phyſics and chemiſtry, we may go on patiently accumulating facts, without forming any one conclu-

ſion, farther than our facts authoriſe us; and leave to poſterity the credit of eſtabliſhing the theory to which our labours are ſubſervient. But in medicine, in which it is of conſequence to have our knowledge at command, it ſeems reaſonable to think, that hypothetical theories may be uſed with advantage; provided always, that they are conſidered merely in the light of artificial memories, and that the ſtudent is prepared to lay them aſide, or to correct them, in proportion as his knowledge of nature becomes more extenſive. I am indeed, ready to confeſs, that this a caution which it is more eaſy to give than to follow: for it is painful to change any of our habits of arrangement, and to relinquiſh thoſe ſyſtems in which we have been educated, and which have long flattered us with an idea of our own wiſdom. Dr. Gregory mentions* it as a ſtriking and diſtinguiſhing circumſtance in the character of Sydenham, that although full of hypothetical reaſoning, it did not render him the leſs attentive to obſervation; and that his hypotheſis ſeem to have ſat ſo looſely about him, that either they did not influence his practice at all, or he could eaſily abandon them, whenever they would not bend to his experience.

SECTION V.

Continuation of the ſame Subject.—Effects produced on the Memory by committing to Writing our acquired Knowledge.

HAVING treated at conſiderable length of the improvement of memory, it may not be improper, before leaving this part of the ſubject, to conſider what effects are likely to be produced on the

* Lectures on the Duties and Qualifications of a Phyſician.

mind by the practice of committing to writing our acquired knowledge. That such a practice is unfavourable, in some respects, to the faculty of memory, by superceding, to a certain degree, the necessity of its exertions, has been often remarked, and I believe is true; but the advantages with which it is attended, in other respects, are so important, as to overbalance greatly this trifling inconvenience.

It is not my intention, at present, to examine and compare together the different methods which have been proposed, of keeping a common-place book. In this, as in other cases of a similar kind, it may be difficult, perhaps, or impossible, to establish any rules which will apply universally. Individuals must be left to judge for themselves, and to adapt their contrivances to the particular nature of their literary pursuits, and to their own peculiar habits of association and arrangement. The remarks which I am to offer are very general, and are intended merely to illustrate a few of the advantages which the art of writing affords to the philosopher, for recording, in the course of his progress through life, the results of his speculations, and the fruits of his experience.

The utility of writing, is enabling one generation to transmit its discoveries to another, and in thus giving rise to a gradual progress in the species, has been sufficiently illustrated by many authors. Little attention, however, has been paid to another of its effects, which is no less important; I mean, to the foundation which it lays for a perpetual progress in the intellectual powers of the individual.

It is to experience, and to our own reflexions, that we are indebted for by far the most valuable part of our knowledge: and hence it is, that although in youth the imagination may be more vigorous, and the genius more original, than in advanced years; yet, in the case of a man of observation and inquiry, the judgment may be expected, at least as long as his

faculties remain in perfection, to become every day ſounder and more enlightened. It is, however, only by the conſtant practice of writing, that the reſults of our experience, and the progreſs of our ideas can be accurately recorded. If they are truſted merely to the memory, they will gradually vaniſh from it like a dream, or will come in time to be ſo blended with the ſuggeſtions of imagination, that we ſhall not be able to reaſon from them with any degree of confidence. What improvements in ſcience might we not flatter ourſelves with the hopes of accompliſhing, had we only activity and induſtry, to treaſure up every plauſible hint that occurs to us! Hardly a day paſſes, when many ſuch do not occur to ourſelves, or are ſuggeſted by others: and detached and inſulated, as they may appear at preſent ſome of them may perhaps afterwards, at the diſtance of years, furniſh the key-ſtone of an important ſyſtem.

But it is not only in this point of view that the philoſopher derives advantage from the practice of writing. Without its aſſiſtance, he could ſeldom be able to advance beyond thoſe ſimple elementary truths which are current in the world, and which form, in the various branches of ſcience, the eſtabliſhed creed of the age he lives in. How inconſiderable would have been the progreſs of mathematicians, in their more abſtruſe ſpeculations, without the aid of the algebraical notation; and to what ſublime diſcoveries have they been led by this beautiful contrivance, which, by relieving the memory of the effort neceſſary for recollecting the ſteps of a long inveſtigation, has enabled them to proſecute an infinite variety of inquiries to which the unaſſiſted powers of the human mind would have been altogether unequal! In the other ſciences, it is true, we have ſeldom or never occaſion to follow out ſuch long chains of conſequences as in mathematics; but in theſe ſciences, if the chain of inveſtigation be

ſhorter, it is far more difficult to make the tranſition from one link to another; and it is only by dwelling long on our ideas, and rendering them perfectly familiar to us, that ſuch tranſitions can, in moſt inſtances, be made with ſafety. In morals and politics, when we advance a ſtep beyond thoſe elementary truths, which are daily preſented to us in books or converſation, there is no method of rendering our concluſions familiar to us, but by committing them to writing, and making them frequently the ſubjects of our meditation. When we have once done ſo, theſe concluſions become elementary truths with reſpect to us; and we may advance from them with confidence to others which are more remote, and which are far beyond the reach of vulgar diſcovery. By following ſuch a plan, we can hardly fail to have our induſtry rewarded, in due time, by ſome important improvement; and it is only by ſuch a plan, that we can reaſonably hope to extend conſiderably the boundaries of human knowledge. I do not ſay that theſe habits of ſtudy are equally favourable to brilliancy of converſation. On the contrary, I believe that thoſe men who poſſeſs this accompliſhment in the higheſt degree, are ſuch as do not advance beyond elementary truths; or rather, perhaps, who advance only a ſingle ſtep beyond them; that is, who think a little more deeply than the vulgar, but whoſe concluſions are not ſo far removed from common opinions, as to render it neceſſary for them, when called upon to defend them, to exhauſt the patience of their hearers, by ſtating a long train of intermediate ideas. They who have puſhed their inquiries much farther than the common ſyſtems of their times, and have rendered familiar to their own minds the intermediate ſteps by which they have been led to their concluſions, are too apt to conceive other men to be in the ſame ſituation with themſelves; and when they mean to inſtruct, are mortified to find that

they are only regarded as paradoxical and viſionary. It is but rarely we find a man of very ſplendid and various converſation to be poſſeſſed of a profound judgment, or of great originality of genius.

Nor is it merely to the philoſopher, who wiſhes to diſtinguiſh himſelf by his diſcoveries, that writing affords an uſeful inſtrument of ſtudy. Important aſſiſtance may be derived from it by all thoſe who wiſh to impreſs on their mind the inveſtigations which occur to them in the courſe of thêir reading; for although writing may weaken (as I already acknowledged it does) a memory for detached obſervations, or for inſulated facts, it will be found the only effectual method of fixing in it permanently, thoſe acquiſitions which involve long proceſſes of reaſoning.

When we are employed in inquiries of our own, the concluſions which we form make a much deeper and more laſting impreſſion on the memory, than any knowledge which we imbibe paſſively from another. This is undoubtedly owing, in part, to the effect which the ardour of diſcovery has, in rouſing the activity of the mind and, in fixing its attention; but I apprehend it is chiefly to be aſcribed to this that when we follow out a train of thinking of our own, our ideas are arranged in that order which is moſt agreeable to our prevailing habits of aſſociation. The only method of putting our acquired knowledge on a level, in this reſpect, with our original ſpeculation, is after making ourſelves acquainted with our author's ideas, to ſtudy the ſubject over again in our own way; to pauſe, from time to time, in the courſe of our reading, in order to conſider what we have gained; to recollect what the propoſitions are, which the author wiſhes to eſtabliſh, and to examine the different proofs which he employs to ſupport them. In making ſuch an experiment, we commonly find, that the different ſteps of the proceſs, arrange themſelves in

our minds, in a manner different from that in which the author has ſtated them; and that while his argument ſeems, in ſome places, obſcure, from its conciſeneſs; it is tedious in others, from being unneceſſarily expanded. When we have reduced the reaſoning to that form, which appears to ourſelves to be he moſt natural and ſatisfactory, we may conclude with certainty, not that this form is better in itſelf than another, but that it is the beſt adapted to our memory. Such reaſonings, therefore, as we have occaſion frequently to apply, either in the buſineſs of life, or in the courſe of our ſtudies it is of importance to us to commit to writing, in a language and in an order of our own; and if, at any time, we find it neceſſary to refreſh our recollection on the ſubject, to have recourſe to our own compoſition, in preference to that of any other author.

That the plan of reading which is commonly followed is very different from that which I have been recommending, will not be diſputed. Moſt people read merely to paſs an idle hour, or to pleaſe themſelves with the idea of employment, while their indolence prevents them from any active exertion; and a conſiderable number, with a view to diſplay which they are afterwards to make of their literary acquiſitions. From whichſoever of theſe motives a perſon is led to the peruſal of books, it is hardly poſſible that he can derive from them any material advantage. If he reads merely from indolence, the ideas which paſs through his mind will probably leave little or no impreſſion; and if he reads from vanity, he will be more anxious to ſelect ſtriking particulars in the matter or expreſſion, than to ſeize the ſpirit and ſcope of the author's reaſoning, or to examine how far he has made any additions to the ſtock of uſeful and ſolid knowledge. "Though it is ſcarce

* See the Preface to his Sermons.

"poſſible," ſays Dr. Butler,* "to avoid judging "in ſome way or other, of almoſt every thing which "offers itſelf to one's thoughts, yet it is certain that "many perſons, from different cauſes, never exer-"ciſe their judgment upon what comes before them "in ſuch a manner as to be able to determine how "far it be concluſive. They are perhaps entertain-"ed with ſome things, not ſo with others; they "like, and they diſlike; but whether that which "is propoſed to be made out, be really made out "or not; whether a matter be ſtated according to "the real truth of the caſe, ſeems, to the generali-"ty of people, a circumſtance of little or no impor-"tance. Arguments are often wanted for ſome "accidental purpoſe; but proof, as ſuch, is what "they never want, for their own ſatisfaction of "mind, or conduct in life. Not to mention the "multitudes who read merely for the ſake of talk-"ing, or to qualify themſelves for the world, or "ſome ſuch kind of reaſons; there are even of the "few who read for their own entertainment, and "have a real curioſity to ſee what is ſaid, ſeveral "which is aſtoniſhing, who have no ſort of curioſity "to ſee what is true: I ſay curioſity, becauſe it is "too obvious to be mentioned how much that re-"ligious and ſacred attention which is due to truth "and to the important queſtion, what is the rule of "life, is loſt out of the world.

"For the ſake of this whole claſs of readers, for "they are of different capacities, different kinds, "and get into this way from different occaſions, I "have often wiſhed, that it had been the cuſtom to "lay before people nothing in matters of argument "but premiſes, and leave them to draw concluſions "themſelves; which although it could not be done "in all caſes, might in many.

"The great number of books and papers of "amuſement, which of one kind or another, daily "come in one's way, have in part occaſioned, and

" moſt perfectly fall in with and humour this idle " way of reading and conſidering things. By this " means, time, even in ſolitude, is happily got rid " of, without the pain of attention; neither is any " part of it more put to the account of idleneſs, one " can ſcarce forbear ſaying, is ſpent with leſs thought " than great part of that which is ſpent in reading."

If the plan of ſtudy which I formerly deſcribed were adopted, it would undoubtedly diminiſh very much the number of books which it would be poſſible to turn over; but I am convinced that it would add greatly to the ſtock of uſeful and ſolid knowledge; and by rendering our acquired ideas in ſome meaſure our own, would give us a more ready and practical command of them: not to mention, that if we are poſſeſſed of any inventive powers, ſuch exerciſes would continually furniſh them with an opportunity of diſplaying themſelves, upon all the different ſubjects which may paſs under our review.

Nothing, in truth, has ſuch a tendency to weaken, not only the powers of invention, but the intellectual powers in general, as a habit of extenſive and various reading, without reflexion. The activity and force of the mind are gradually impaired, in conſequence of diſuſe; and not unfrequently all our principles and opinions come to be loſt, in the infinite multiplicity and diſcordancy of our acquired ideas.

By confining our ambition to purſue the truth with modeſty and candour, and learning to value our acquiſitions only in ſo far as they contribute to make us wiſer and happier, we may, perhaps, be obliged to ſacrifice the temporary admiration of the common diſpenſers of literary fame; but we may reſt aſſured, that it is in this way only we can hope to make real progreſs in knowledge, or to enrich the world with uſeful inventions.

" It requires courage, indeed," (as Helvetius has remarked) " to remain ignorant of thoſe uſeleſs ſub-

"jects which are generally valued;" but it is a courage neceſſary to men who either love the truth or who aſpire to eſtabliſh a permanent reputation.

SECTION VI.

Continuation of the ſame Subject.——Of Artificial Memory.

BY an artificial memory is meant, a method of connecting in the mind, things difficult to be remembered, with things eaſily remembered; ſo as to enable it to retain, and to recollect the former, by means of the latter. For this purpoſe, various contrivances have been propoſed, but I think the foregoing definition applies to all of them.

Some ſorts of artificial memory are intended to aſſiſt the natural powers of the human mind on particular occaſions, which require a more than ordinary effort of recollection; for example, to aſſiſt a public ſpeaker to recollect the arrangement of a long diſcourſe. Others have been deviſed, with a view to enable us to extend the circle of our acquired knowledge, and to give us a more ready command of all the various particulars of our information.

The topical memory, ſo much celebrated among the ancient rhetoricians, comes under the former deſcription.

I already remarked, the effect of ſenſible objects in recalling to the mind the ideas with which it happened to be occupied, at the time when theſe objects were formerly perceived. In travelling along a road, the ſight of the more remarkable ſcenes we meet with frequently puts us in mind of the ſubjects we were thinking or talking of when we laſt ſaw them. Such facts, which are perfectly familiar, even to the vulgar, might very naturally

ſuggeſt the poſſibility of aſſiſting the memory, by eſtabliſhing a connexion between the ideas we wiſh to remember, and certain ſenſible objects which have been found from experience to make a permanent impreſſion on the mind.* I have been told of a young woman, in a very low rank of life, who contrived a method of committing to memory the ſermons which ſhe was accuſtomed to hear, by fixing her attention, during the different heads of the diſcourſe, on different compartments of the roof of the church; in ſuch a manner, as that when ſhe afterwards ſaw the roof, or recollected the order in which its compartments were diſpoſed, ſhe recollected the method which the preacher had obſerved in treating his ſubject. This contrivance was perfectly analogous to the topical memory of the ancients; an art which, whatever be the opinion we entertain of its uſe, is certainly entitled in a high degree, to the praiſe of ingenuity.

Suppoſe that I were to fix in my memory the different apartments in ſome very large building, and that I had acuſtomed myſelf to think of theſe apartments always in the ſame invariable order. Suppoſe farther, that, in preparing myſelf for a public diſcourſe, in which I had occaſion to treat of a great variety of particulars, I was anxious to fix in my memory the order I propoſed to obſerve in the communication of my ideas. It is evident, that, by a proper diviſion of my ſubject into heads, and by connecting each head with a particular apartment, (which I could eaſily do, by conceiving myſelf to be ſitting in the apartment while I was ſtudying the part of my diſcourſe I meant to connect with

* "Cum in loca aliqua poſt tempus reverſi ſumus, non "ipſa agnoſcimus tantum, ſed etiam, quæ in his fecerimus, "reminiſcimur, perſonæque ſubeunt, nonunquam tacitæ "quoque cogitationes in mentem revertuntur. Nata eſt "igitur, ut in pleriſque, ars ab experimento."

QUINCT. *Inſt. Orat.* lib. xi. cap. 2.

it) the habitual order in which theſe apartments occurred to my thoughts, would preſent to me, in their proper arrangement, and without any effort on my part, the ideas of which I was to treat. It is alſo obvious, that a very little practice would enabled me to avail myſelf of this contrivance, without any embarraſſment or diſtraction of my attention.*

As to the utility of this art, it appears to me to depend entirely on the particular object which we ſuppoſe the ſpeaker to have in view; whether, as was too often the caſe with the ancient rhetoricians to bewilder a judge, and to ſilence an adverſary; or fairly and candidly to lead an audience to the truth. On the former ſuppoſition, nothing can poſſibly give an orator a greater ſuperiority, than the poſſeſſion of a ſecret, which, while it enables him to expreſs himſelf with facility and the appearance of method, puts it in his power, at the ſame time, to diſpoſe his arguments and his facts, in whatever order he judges to be the moſt proper to miſlead the judgment, and to perplex the memory of thoſe whom he addreſſes. And ſuch, it is manifeſt, is the effect, not only of the topical memory of the ancients, but of all other contrivances which aid the recollection, upon any principle different from the natural and logical arrangement of our ideas.

To thoſe, on the other hand, who ſpeak with a view to convince or to inform others, it is of con-

* In ſo far as it was the object of this ſpecies of artificial memory to aſſiſt an orator in recollecting the plan and arrangement of his diſcourſe, the accounts of it which are given by the ancient rhetoricians are abundantly ſatisfactory. It appears, however, that its uſe was more extenſive; and that it was ſo contrived, as to facilitate the recollection of a premeditated compoſition. In what manner this was done, it is not eaſy to conjecture from the imperfect explanations of the art, which have been tranſmitted to modern times. The reader may conſult CICERO *De Orat.* lib. ii. cap. 87, 88. —*Rhetor. ad Herennium,* lib. iii. cap. 16. et ſeq.—QUINCTIL. *Inſt. Orat.* lib. xi. cap. 2.

ſequence that the topics which they mean to illuſtrate, ſhould be arranged in an order equally favorable to their own recollection and to that of their hearers. For this purpoſe, nothing is effectual, but that method which is ſuggeſted by the order of their own inveſtigations; a method which leads the mind from one idea to another, either by means of obvious and ſtriking aſſociations, or by thoſe relations which connect the different ſteps of a clear and accurate proceſs of reaſoning. It is thus only that the attention of an audience can be completely and inceſſantly engaged, and that the ſubſtance of a long diſcourſe can be remembered without effort. And it is thus only that a ſpeaker, after a mature conſideration of his ſubject, can poſſeſs a juſt confidence in his own powers of recollection, in ſtating all the different premiſes which lead to the concluſion he wiſhes to eſtabliſh.

In modern times ſuch contrivances have been very little, if at all, made uſe of by public ſpeakers; but various ingenious attempts have been made, to aſſiſt the memory, in acquiring and retaining thoſe branches of knowledge which it has been ſuppoſed neceſſary for a ſcholar to carry always about with him; and which, at the ſame time, from the number of particular details which they involve, are not calculated, of themſelves, to make a very laſting impreſſion on the mind. Of this ſort is the Memoria Technica of Mr. Grey, in which a great deal of hiſtorical, chronological, and geographical knowledge is compriſed in a ſet of verſes, which the ſtudent is ſuppoſed to make as familiar to himſelf as ſchool-boys do the rules of grammar. Theſe verſes are, in general, a mere aſſemblage of proper names diſpoſed in a rude ſort of meaſure; ſome ſlight alterations being occaſionally made on the final ſyllables of the words, ſo as to be ſignificant (according to certain principles laid down in the beginning of the work) of important dates, or of other

particulars which it appeared to the author useful to associate with the names.

I have heard very opposite opinions with respect to the utility of this ingenious system. The prevailing opinion is, I believe, against it; although it has been mentioned in terms of high approbation by some writers of eminence. Dr. Priestley, whose judgment, in matters of this sort, is certainly entitled to respect, has said, that "it is a method so easily learned, and which may be of so much use in recollecting dates, when other methods are not at hand, that he thinks all persons of a liberal education inexcusable, who will not take the small degree of pains that is necessary to make themselves masters of it; or who think any thing mean, or unworthy of their notice, which is so useful and convenient."*

In judging of the utility of this, or of any other contrivance of the same kind, to a particular person, a great deal must depend on the species of memory which he has received from nature, or has acquired in the course of his early education. Some men, as I already remarked, (especially among those who have been habitually exercised in childhood in getting by heart grammar rules) have an extraordinary facility in acquiring and retaining the most barbarous and the most insignificant verses; which another person would find as difficult to remember, as the geographical and chronological, details, of which it is the object of this art to relieve the memory. Allowing, therefore, the general utility of the art, no one method, perhaps, is entitled to an exclusive preference; as one contrivance may be best suited to the faculties of one person, and a very different one to those of another.

One important objection applies to all of them, that they accustom the mind to associate ideas by

* Lectures on History, p. 157.

accidental and arbitrary connexions; and, therefore, how much ſoever they may contribute, in the courſe of converſation, to an oſtentatious diſplay of acquired knowledge, they are, perhaps, of little real ſervice to us, when we are ſeriouſly engaged in the purſuit of truth. I own, too, I am very doubtful with reſpect to the utility of a great part of that information which they are commonly employed to impreſs on the memory, and on which the generality of learned men are diſpoſed to value themſelves. It certainly is of no uſe, but in ſo far as it is ſubſervient to the gratification of their vanity; and the acquiſion of it conſumes a great deal of time and attention, which might have been employed in extending the boundaries of human knowledge. To thoſe, however, who are of a different opinion, ſuch contrivances as Mr. Grey's may be extremely uſeful: and to all men they may be of ſervice, in fixing in the memory thoſe inſulated and unintereſting particulars, which it is either neceſſary for them to be acquainted with, from their ſituation; or which cuſtom has rendered, in the common opinion, eſſential branches of a liberal education. I would, in particular, recommend this author's method of recollecting dates, by ſubſtituting letters for the numeral cyphers; and forming theſe letters into words and the words into verſes. I have found it at leaſt in my own caſe, the moſt effectual of all ſuch contrivances of which I have had experience.

SECTION VII.

Continuation of the ſame Subject.—Importance of making a proper Selection among the Objects of our Knowledge in order to derive advantage from the Acquiſitions of Memory.

THE cultivation of memory, with all the helps

that we can derive to it from art, will be of little use to us, unless we make a proper selection of the particulars to be remembered. Such a selection is necessary to enable us to profit by reading; and still more so, to enable us to profit by observation, to which every man is indebted for by far the most valuable part of his knowledge.

When we first enter on any new literary pursuit, we commonly find our efforts of attention painful and unsatisfactory. We have no discrimination in our curiosity; and by grasping at every thing, we fail in making those moderate acquisitions which suited to our limited faculties. As our knowledge extends, we learn to know what particulars are likely to be of use to us; and acquire a habit of directing our examination to these, without distracting the attention with others. It is partly owing to a similar circumstance that most readers complain of a defect of memory, when they first enter on the study of history. They cannot separate important from trifling facts, and find themselves unable to retain any thing, from their anxiety to secure the whole.

In order to give a proper direction to our attention in the course of our studies; it is useful, before engaging in particular pursuits, to acquire as familiar an acquaintance as possible with the great outlines of the different branches of science; with the most important conclusions which have hitherto been formed in them, and with the most important desiderata which remain to be supplied. In the case, too, of those parts of knowledge, which are not yet ripe for the formation of philosophical systems, it may be of use to study the various hypothetical theories which have been proposed for connecting together and arranging the phenomena. By such general views alone we can prevent ourselves from being lost, amidst a labyrinth of particulars, or can engage in a course of extensive and

various reading, with an enlightened and diſcriminating attention. While they withdraw our notice from barren and inſulated facts, they direct it to ſuch as tend to illuſtrate principles which have either been already eſtabliſhed, or which from having that degree of connexion among themſelves, which is neceſſary to give plauſibility to a hypothetical theory, are likely to furniſh, in time, the materials of a juſter ſyſtem.

Some of the followers of Lord Bacon have, I think, been led, in their zeal for the method of induction, to cenſure hypothetical theories with too great a degree of ſeverity. Such theories have certainly been frequently of uſe, in putting philoſophers upon the road of diſcovery. Indeed, it has probably been in this way, that moſt diſcoveries have been made, for although a knowledge of facts muſt be prior to the formation of a juſt theory, yet a hypothetical theory is generally our beſt guide to the knowledge of uſeful facts. If a man, without forming to himſelf any conjecture concerning the unknown laws of nature, were to ſet himſelf merely to accumulate facts at random, he might, perhaps, ſtumble upon ſome important diſcovery; but by far the greater part of his labours would be wholly uſeleſs. Every philoſophical inquirer, before he begins a ſet of experiments, has ſome general principle in his view, which he ſuſpects to be a law of nature;* and although his conjectures may be often wrong, yet they ſerve to give his inquiries a particular direction, and to bring under his eye a number of facts which have a certain relation to each other. It has been often remarked, that the

* "Recte ſiquidem Plato, "Qui aliquid quærit, id ipſum, "quod quærit, generali quadam notione comprehendit: ali-"ter, qui fieri poteſt, ut illud, cum fuerit inventum, agnoſ-"cat?" Idcirco quo amplior et certior fuerit anticipatio noſtra; "eo magis directa et compendioſa erit inveſtigatio."

De Aug. Scient. lib. v. cap. 3.

attempts to diſcover the philoſopher's ſtone, and the quadrature of the circle, have led to many uſeful diſcoveries in chemiſtry and mathematics. And they have plainly done ſo, merely by limiting the field of obſervation and inquiry, and checking that indiſcriminate and deſultory attention which is ſo natural to an indolent mind. A hypothetical theory, however erroneous, may anſwer a ſimilar purpoſe. "Prudens interrogatio," (ſays Lord Bacon) "eſt dimidium ſcientiæ. Vaga enim experientia "et ſe tantum ſequens mera palpatio eſt, et homi- "nes potius ſtupefacit quam informat." What, indeed, are Newton's queries, but ſo many hypotheſes, which are propoſed as ſubjects of examination to philoſophers? And did not even the great doctrine of gravitation take its firſt riſe from a fortunate conjecture?

While, therefore, we maintain, with the followers of Bacon, that no theory is to be admitted as proved, any farther than it is ſupported by facts, we ſhould, at the ſame time, acknowledge our obligations to thoſe writers who hazard their conjectures to the world with modeſty and diffidence. And it may not be improper to add, that men of a ſyſtematizing turn are not now ſo uſeleſs as formerly; for we are already poſſeſſed of a great ſtock of facts; and there is ſcarcely any theory ſo bad, as not to bring together a number of particulars, which have a certain degree of relation or analogy to each other.

The foregoing remarks are applicable to all our various ſtudies; whether they are conducted in the way of reading, or of obſervation. From neither of theſe two ſources of information can we hope to derive much advantage, unleſs we have ſome general principles to direct our attention to proper objects.

With reſpect to obſervation, ſome farther cautions may be uſeful; for in guarding againſt an in-

diſcriminate accumulation of particulars, it is poſſible to fall into the oppoſite extreme, and to acquire a habit of inattention to the phenomena which preſent themſelves to our ſenſes. The former is the error of men of little education; the latter is more common among men of retirement and ſtudy.

One of the chief effects of a liberal education, is to enable us to withdraw the attention from the preſent objects of our perceptions, and to dwell at pleaſure on the paſt, the abſent, or the future. But when we are led to carry theſe efforts to an exceſs either from a warm and romantic imagination, or from an anxious and ſanguine temper, it is eaſy to ſee that the power of obſervation is likely to be weakened, and habits of inattention to be contracted. The ſame effect may be produced by too early an indulgence in philoſophical purſuits, before the mind has been prepared for the ſtudy of general truths, by exerciſing its faculties among particular objects, and particular occurrences. In this way it contracts an averſion to the examination of details, from the pleaſure which it has experienced in the contemplation or in the diſcovery of general principles. Both of theſe turns of thought, however, preſuppoſe a certain degree of obſervation; for the materials of imagination are ſupplied by the ſenſes; and the general truths which occupy the philoſopher, would be wholly unintelligible to him, if he was a total ſtranger to all experience with reſpect to the courſe of nature and of human life. The obſervations, indeed, which are made by men of a warm imagination, are likely to be inaccurate and fallacious; and thoſe of the ſpeculative philoſopher are frequently carried no farther than is neceſſary to enable him to comprehend the terms which relate to the ſubjects of his reaſoning; but both the one and the other muſt have looked abroad occaſionally at nature, and at the world; if not to aſcertain facts by actual examination, at leaſt to ſtore their minds with ideas.

The metaphyſician, whoſe attention is directed to the faculties and operations of the mind, is the only man who poſſeſſes within himſelf the materials of his ſpeculations and reaſonings. It is accordingly among this claſs of literary men, that habits of inattention to things external have been carried to the greateſt extreme.

It is obſerved by Dr. Reid, that the power of reflexion, (by which he means the power of attending to the ſubjects of our conſciouſneſs) is the laſt of our intellectual faculties which, unfolds itſelf; and that in the greater part of mankind it never unfolds itſelf at all. It is a power, indeed, which, being ſubſervient merely to the gratification of metaphyſical curioſity, it is not eſſentially neceſſary for us to poſſeſs, in any conſiderable degree. The power of obſervation, on the other hand, which is neceſſary for the preſervation even of our animal exiſtence, diſcovers itſelf in infants, long before they attain the uſe of ſpeech; or rather, I ſhould have ſaid as ſoon as they come into the world; and where nature is allowed free ſcope, it continues active and vigorous through life. It was plainly the intention of nature, that in infancy and youth it ſhould occupy the mind almoſt excluſively, and that we ſhould acquire all our neceſſary information before engaging in ſpeculations which are leſs eſſential: and accordingly this is the hiſtory of the intellectual progreſs, in by far the greater number of individuals. In conſequence of this, the difficulty of metaphyſical reſearches is undoubtedly much increaſed; for the mind, being conſtantly occupied in the earlier part of life about the properties and laws of matter, acquires habits of inattention to the ſubjects of conſciouſneſs, which are not to be ſurmounted, without a degree of patience and perſeverance of which few men are capable: but the inconvenience would evidently have been greatly increaſed, if the order of nature had, in this

reſpect, been reverſed, and if the curioſity had been excited at as early a period, by the phenomena of the intellectual world, as by thoſe of the material. Of what would have happened on this ſuppoſition, we may form a judgment from thoſe men who, in conſequence of an exceſſive indulgence in metaphyſical purſuits, have weakened, to an unnatural degree, their capacity of attending to external objects and occurrences. Few metaphyſicians, perhaps, are to be found, who are not deficient in the power of obſervation: for, although a taſte for ſuch abſtract ſpeculations is far from being common, it is more apt, perhaps, than any other, when it has once been formed, to take an excluſive hold of the mind, and to ſhut up the other ſources of intellectual improvement. As the metaphyſician carries within himſelf the materials of his reaſoning, he is not under a neceſſity of looking abroad for ſubjects of ſpeculation or amuſement; and unleſs he be very careful to guard againſt the effects of his favourite purſuits, he is in more denger than literary men of any other denomination, to loſe all intereſt about the common and proper objects of human curioſity.

To prevent any danger from this quarter, I apprehend that the ſtudy of the mind ſhould form the laſt branch of the education of youth; an order which nature herſelf ſeems to point out, by what I have already remarked, with reſpect to the developement of our faculties. After the underſtanding is well ſtored with particular facts, and has been converſant with particular ſcientific purſuits, it will be enabled to ſpeculate concerning its own powers, with additional advantage, and will run no hazard of indulging too far in ſuch inquiries. Nothing can be more abſurd, on this as well as on many other accounts, than the common practice which is followed in our univerſities, of beginning a courſe of philoſophical education with the

ſtudy of logic. If this order were completely reverſed; and if the ſtudy of logic, were delayed, till after the mind of the ſtudent were well ſtored with particular facts in phyſics, in chemiſtry, in natural and civil hiſtory; his attention might be led, with the moſt important advantage and without any danger to his power of obſervation to an examination of his own faculties; which beſides opening to him a new and pleaſing field of ſpeculation, would enable him to form an eſtimate of his own powers, of the acquiſitions he has made, of the habits he has formed, and of the farther improvements of which his mind is ſuſceptible.

In general, wherever habits of inattention, and an incapacity of obſervation, are very remarkable, they will be found to have ariſen from ſome defect of early education. I already remarked, that, when nature is allowed free ſcope, the curioſity, during early youth, is alive to every external object, and to every external occurrence, while the powers of imagination and reflexion do not diſplay themſelves till a much later period; the former till about the age of puberty, and the latter till we approach to manhood. It ſometimes, however, happens that, in conſequence of a peculiar diſpoſition of mind, or of an infirm bodily conſtitution, a child is led to ſeek amuſement from books, and to loſe a reliſh for thoſe recreations which are ſuited to his age. In ſuch inſtances, the ordinary progreſs of the intellectual powers is prematurely quickened; but that beſt of all education is loſt, which nature has prepared both for the philoſopher and the man of the world, amidſt the active ſports and the hazardous adventures of childhood. It is from theſe alone, that we can acquire, not only that force of character which is ſuited to the more arduous ſituations of life, but that complete and prompt command of attention to things external, without which the higheſt endowments of the underſtanding, however they may fit

a man for the ſolitary ſpeculations of the cloſet, are but of little uſe in the practice of affairs, or for enabling him to profit by his perſonal experience.

Where, however, ſuch habits of inattention have unfortunately been contracted, we ought not to deſpair of them as perfectly incurable. The attention indeed, as I formerly remarked, can ſeldom be forced in particular inſtances; but we may gradually learn to place the objects we wiſh to attend to, in lights more intereſting than thoſe in which we have been accuſtomed to view them. Much may be expected from a change of ſcene, and a change of purſuits; but, above all, much may be expected from foreign travel. The objects which we meet with excite our ſurprize by their novelty; and in this manner, we not only gradually acquire the power of obſerving and examining them with attention, but, from the effects of contraſt, the curioſity comes to be rouſed with reſpect to the correſponding objects in our own country, which, from our early familiarity with them, we had formerly been accuſtomed to overlook. In this reſpect the effects of foreign travel, in directing the attention to familiar objects and occurrences, is ſomewhat analogous to that which the ſtudy of a dead or of a foreign language produces, in leading the curioſity to examine the grammatical ſtructure of our own.

Conſiderable advantage may alſo be derived, in overcoming the habits of inattention, which we may have contracted to particular ſubjects, from ſtudying the ſyſtems, true or falſe, which philoſophers have propoſed for explaining or for arranging the facts connected with them. By means of theſe ſyſtems, not only is the curioſity circumſcribed and directed, inſtead of being allowed to wander at random, but, in conſequence of our being enabled to connect facts with general principles, it becomes intereſted in the examination of thoſe particulars which would otherwiſe have eſcaped our notice.

SECTION VIII.

Of the Connexion between Memory and Philoſophical Genius.

IT is commonly ſuppoſed, that genius is ſeldom united with a very tenacious memory. So far, however as my own obſervation has reached, I can ſcarcely recollect one perſon who poſſeſſes the former of theſe qualities, without a more than ordinary ſhare of the latter.

On a ſuperficial view of the ſubject, indeed, the common opinion has ſome appearance of truth; for, we are naturally led, in conſequence of the topics about which converſation is uſually employed, to eſtimate the extent of memory, by the impreſſion which trivial occurrences make upon it; and theſe in general eſcape the recollection of a man of ability, not becauſe he is unable to retain them, but becauſe he does not attend to them. It is probable likewiſe, that accidental aſſociations, founded on contiguity in time and place, may make but a ſlight impreſſion on his mind. But it does not therefore follow, that his ſtock of facts is ſmall. They are connected together in his memory by principles of aſſociation, different from thoſe which prevail in ordinary minds; and they are on that very account the more uſeful, for as the aſſociations are founded upon real connexions among the ideas, (although they may be leſs conducive to the fluency, and perhaps to the wit of converſation) they are of incomparably greater uſe in ſuggeſting facts which are to ſerve as a foundation for reaſoning or for invention.

It frequently happens, too, that a man of genius, in conſequence of a peculiarly ſtrong attachment to a particular ſubject, may firſt feel a want of inclination, and may afterwards acquire a want of capaci-

ty of attending to common occurrences. But it is probable that the whole ſtock of ideas in his mind, is not inferior to that of other men; and that however unprofitably he may have directed his curioſity, the ignorance which he diſcovers on ordinary ſubjects does not ariſe from a want of memory, but from a peculiarity in the ſelection which he has made objects of his ſtudy.

Montaigne* frequently complains, in his writings, of his want of memory; and he indeed gives many very extraordinary inſtances of his ignorance on ſome of the moſt ordinary topics of information. But it is obvious to any perſon who reads his works with attention, that his ignorance did not proceed from an original defect of memory, but from the ſingular and whimſical direction which his curioſity had taken at an early period of life. "I can do no-"thing," ſays he, "without my memorandum "book; and ſo great is my difficulty in remember-"ing proper names, that I am forced to call my do-"meſtic ſervants by their offices. I am ignorant "of the greater part of our coins in uſe; of the "difference of one grain from another, both in the "earth and in the granary; what uſe leaven is of "in making bread, and why wine muſt ſtand ſome "time in the vat before it ferments." Yet the ſame author appears evidently, from his writings, to have had his memory ſtored with an infinite variety of apothegms, and of hiſtorical paſſages, which had ſtruck his imagination; and to have been familiarly acquainted, not only with the names, but with the abſurd and exploded opinions of the ancient philoſophers; with the ideas of Plato, the atoms of Epicurus, the plenum and vacuum of Leucippus and Democritus, the water of Thales, the numbers

* Il n'eſt homme à qui il ſieſe ſi mal de ſe meſler de parler de mémoire. Car je n'en recognoy quaſi trace en moy; et ne penſe qu'il y en ait au monde une autre ſi mar veilleuſe en deſaillance.—*Eſſais de* MONTAIGNE, liv. i. ch. 9.

of Pythagoras, the infinite of Permenides, and the unity of Muſæus. In complaining too, of his want of preſence of mind, he indirectly acknowledges a degree of memory, which, if it had been judiciouſly employed, would have been more than ſufficient for the acquiſition of all thoſe common branches of knowledge in which he appears to have been deficient. "When I have an oration to ſpeak," ſays he, "of any conſiderable length, I am reduced to "the miſerable neceſſity of getting it, word for "word, by heart."

The ſtrange and apparently inconſiſtent combination of knowledge and ignorance which the writings of Montaigne exhibits, led Malebranche (who ſeems to have formed too low an opinion both of his genius and character) to tax him with affectation; and even to call in queſtion the credibility of ſome of his aſſertions. But no one who is well acquainted with this moſt amuſing author, can reaſonably ſuſpect his veracity; and, in the preſent inſtance, I can give him complete credit, not only from my general opinion of his ſincerity, but from having obſerved, in the courſe of my own experience, more than one example of the ſame ſort of combination; not indeed carried to ſuch a length as Montaigne deſcribes, but bearing a ſtriking reſemblance to it.

The obſervations which have already been made, account, in part, for the origin of the common opinion, that genius and memory are ſeldom united in great degrees in the ſame perſon; and at the ſame time ſhew, that ſome of the facts on which that opinion is founded, do not juſtify ſuch a concluſion. Beſides theſe, however, there are other circumſtances which, at firſt view ſeem rather to indicate an inconſiſtency between extenſive memory and original genius.

The ſpecies of memory which excites the greateſt degree of admiration in the ordinary intercourſe

of ſociety, is a memory for detached and inſulated facts; and it is certain that thoſe men who are poſſeſſed of it, are very ſeldom diſtinguiſhed by the higher gifts of the mind. Such a ſpecies of memory is unfavourable to philoſophical arrangement; becauſe it in part ſupplies the place of arrangement. One great uſe of philoſophy, as I already ſhewed, is to give us an extenſive command of particular truths by furniſhing us with general principles, under which a number of ſuch truths is comprehended. A perſon in whoſe mind caſual aſſociations of time and place make a laſting impreſſion, has not the ſame inducements to philoſophize, with others who connect facts together, chiefly by the relations of cauſe and effect, or of premiſes and concluſion. I have heard it obſerved, that thoſe men who have riſen to the greateſt eminence in the profeſſion of law, have been in general ſuch as had, at firſt, an averſion to the ſtudy. The reaſon probably is, that to a mind fond of general principles, every ſtudy muſt be at firſt diſguſting, which preſents to it a chaos of facts apparently unconnected with each other. But this love of arrangement, if united with perſevering induſtry, will at laſt conquer every difficulty; will introduce order into what ſeemed, on a ſuperficial view, a maſs of confuſion, and reduce the dry and unintereſting detail of poſitive ſtatutes into a ſyſtem comparatively luminous and beautiful.

The obſervation, I believe, may be made more general, and may be applied to every ſcience in which there is a great multiplicity of facts to be remembered. A man deſtitute of genius may, with little effort, treaſure up in his memory a number of particulars in chemiſtry or natural hiſtory, which he refers to no principle, and from which he deduces no concluſion; and from his facility in acquiring this ſtock of information, may flatter himſelf with the belief that he poſſeſſes a natural taſte

for theſe branches of knowledge. But they who are really deſtined to extend the boundaries of ſcience, when they firſt enter on new purſuits, feel their attention diſtracted, and their memory overloaded with facts among which they can trace no relation, and are ſometimes apt to deſpair entirely of their future progreſs. In due time, however, their ſuperiority appears, and ariſes in part from that very diſſatisfaction which they at firſt experienced, and which does not ceaſe to ſtimulate their inquiries, till they are enabled to trace, amidſt a chaos of apparently unconnected materials, that ſimplicity and beauty which always characterize the operations of nature.

There are, beſides, other circumſtances which retard the progreſs of a man of genius, when he enters on a new purſuit, and which ſometimes render him apparently inferior to thoſe who are poſſeſſed of ordinary capacity. A want of curioſity,* and of invention, facilitates greatly the acquiſition of knowledge. It renders the mind paſſive, in receiving the ideas of others, and ſaves all the time which might be employed in examining their foundation, or in tracing their conſequences. They who are poſſeſſed of much acuteneſs and originality, enter with difficulty into the views of others; not from any defect in their power of apprehenſion, but becauſe they cannot adopt opinions which they have not examined; and becauſe their attention is often ſeduced by their own ſpeculations.

It is not merely in the acquiſition of knowledge that a man of genius is likely to find himſelf ſurpaſſed by others: he has commonly his information much leſs at command, than thoſe who are poſſeſſed of an inferior degree of originality; and, what is

* I mean a want of curioſity about truth. "There are "many men," ſays Dr. Butler, "who have a ſtrong curioſ- "ity to know what is ſaid, who have little or no curioſity "to know what is true."

ſomewhat remarkable, he has it leaſt of all at command on thoſe ſubjects on which he has found his invention moſt fertile. Sir Iſaac Newton, as we are told by Dr. Pemberton, was often at a loſs, when the converſation turned on his own diſcoveries.* It is probable that they made but a ſlight impreſſion on his mind, and that a conſciouſneſs of his inventive power prevented him from taking much pains to treaſure them up in his memory. Men of little ingenuity ſeldom forget the ideas they acquire; becauſe they know, that when an occaſion occurs for applying their knowledge to uſe, they muſt truſt to memory, and not to invention. Explain an arithmetical rule to a perſon of common underſtanding, who is unacquainted with the principles of the ſcience; he will ſoon get the rule by heart, and become dextrous in the application of it. Another, of more ingenuity, will examine the principles of the rule before he applies it to uſe, and will ſcarcely take the trouble to commit to memory a proceſs, which he knows he can, at any time, with a little reflexion recover. The conſequence will be, that, in the practice of calculation, he will appear more ſlow and heſitating, than if he followed the received rules of arithmetic without reflexion or reaſoning.

Something of the ſame kind happens every day in converſation. By far the greater part of the opinions we announce in it, are not the immediate reſult of reaſoning on the ſpot, but have been previouſly formed in the cloſet, or perhaps have been adopted implicitly on the authority of others. The promptitude, therefore, with which a man decides in ordinary diſcourſe, is not a certain teſt of the quickneſs of his apprehenſion;† as it may perhaps

* See Note [T.]

† Memoria facit prompti ingenii famam, ut illa quæ dicimus, non domo, attuliſſe, ſed ibi protinus ſumpſiſſe videamur.—QUINCTIL. *Inſt. Orat.* lib. xi. cap. 3.

ariſe from thoſe uncommon efforts to furniſh the memory with acquired knowledge, by which men of ſlow parts endeavour to compenſate for their want of invention; while, on the other hand, it is poſſible that a conſciouſneſs of originality may give riſe to a manner apparently embarraſſed, by leading the perſon who feels it, to truſt too much to extempore exertions.*

In general I believe, it may be laid down as a rule that thoſe who carry about with them a great degree of acquired information, which they have always at command, or who have rendered their own diſcoveries ſo familiar to them, as always to be in a condition to explain them without recollection, are very ſeldom poſſeſſed of much invention, or even of much quickneſs of apprehenſion. A man of original genius who is fond of exerciſing his reaſoning powers anew on every point as it occurs to him, and who cannot ſubmit to rehearſe the ideas of others, or to repeat by rote the concluſions which he has deduced from previous reflexion, often appears, to ſuperficial obſervers, to fall below the level of ordinary underſtandings; while another, deſtitute both of quickneſs and invention, is admired for that promptitude in his deciſions, which ariſes from the inferiority of his intellectual abilities.

* In the foregoing obſervations it is not meant to be implied that originality of genius is incompatible with a ready recollection of acquired knowledge; but only that it has a tendency unfavourable to it, and that more time and practice will commonly be neceſſary to familiarize the mind of a man of invention to the ideas of others, or even to the concluſions of his own underſtanding, than are requiſite in ordinary caſes. Habits of literary converſation, and, ſtill more, habits of extempore diſcuſſion, in a popular aſſembly, are peculiarly uſeful in giving us a ready and practical command of our knowledge. There is much good ſenſe in the following aphoriſm of Bacon: "Reading makes a full man, wri-"ting a correct man, and ſpeaking a ready man." See a commentary on this aphoriſm in one of the numbers of the Adventurer.

It muſt indeed be acknowledged in favour of the laſt deſcription of men, that in ordinary converſation they form the moſt agreeable, and perhaps the moſt inſtructive, companions. How inexhauſtible ſoever the invention of an individual may be, the variety of his own peculiar ideas can bear no proportion to the whole maſs of uſeful and curious information of which the world is already poſſeſſed. The converſation, accordingly of men of genius, is ſometimes extremely limited; and is intereſting to the few alone, who know the value, and who can diſtinguiſh the marks of originality. In conſequence too of that partiality which every man feels for his own ſpeculations, they are more in danger of being dogmatical and diſputatious, than thoſe who have no ſyſtem which they are intereſted to defend.

The ſame obſervations may be applied to authors. A book which contains the diſcoveries of one individual only, may be admired by a few, who are intimately acquainted with the hiſtory of the ſcience to which it relates, but it has little chance for popularity with the multitude. An author who poſſeſſes induſtry ſufficient to collect the ideas of others, and judgment ſufficient to arrange them ſkillfully, is the moſt likely perſon to acquire a high degree of literary fame: and although, in the opinion of enlightened judges, invention forms the chief characteriſtic of genius, yet it commonly happens that the objects of public admiration, are men who are much leſs diſtinguiſhed by this quality, than by extenſive learning and cultivated taſte. Perhaps, too, for the multitude, the latter claſs of authors is the moſt uſeful; as their writings contain the more ſolid diſcoveries which others have brought to light, ſeparated from thoſe errors with which truth is often blended in the firſt formation of a ſyſtem.

CHAPTER SEVENTH.

OF IMAGINATION.

SECTION I.

Analyſis of Imagination.

I HAVE already endeavoured to draw the line between conception and imagination. The province of the former is to preſent us with an exact tranſcript of what we have formerly felt and perceived: that of the latter, to make a ſelection of qualities and of circumſtances, from a variety of different objects, and, by combining and diſpoſing theſe to form a new creation of its own.

The operations of imagination, however, are by no means confined to the materials which conception furniſhes; but may be equally employed about all the different ſubjects of our knowledge. As it is the ſame power of reaſoning which enables us to carry on our inveſtigations with reſpect to individual objects, and with reſpect to claſſes or genera; ſo it was by the ſame proceſſes of analyſis and combination, that the genius of Milton produced the Garden of Eden; that of Harrington, the Commonwealth of Oceana; and that of Shakeſpeare, the Characters of Hamlet and Falſtaff. The difference between theſe ſeveral efforts of genius, conſiſts only in the manner in which the original materials were acquired: ſo far as the power of imagination is concerned, the proceſſes are perfectly analogous.

To all theſe various modes in which imagination may diſplay itſelf, the greater part of the remarks contained in this chapter will be found to apply, under proper limitations; but in order to render the ſubject more obvious to the reader's examination

I ſhall, in the farther proſecution of it, endeavour to convey my ideas, rather by means of particular examples, than in the form of general principles; leaving it to his own judgment to determine, with what modifications the concluſions to which we are led, may be extended to other combinations of circumſtances.

Among the innumerable illuſtrations which this extenſive ſubject preſents to our choice, the combinations which the mind forms out of materials ſupplied by the power of conception, recommend themſelves ſtrongly, both by their ſimplicity, and by the intereſting nature of the diſcuſſions to which they lead. Of theſe materials, a very large proportion have been originally collected by the ſenſe of ſight; a ſenſe which introduces a much greater variety of pleaſures to the mind, than any of the others; and the perceptions of which, the mind has, upon that account, a peculiar enjoyment in recalling. It is this ſenſe, accordingly, which, in the firſt inſtance, ſupplies the painter and the ſtatuary, with *all* the ſubjects upon which their genius is exerciſed; and which furniſhes to the deſcriptive poet, by far *the greater part* of the materials of his art. The very etymology of the word imagination has a reference to viſible objects; and, in its moſt ordinary acceptation, it is either uſed as ſynonymous with the conception of ſuch objects, or is applied to caſes in which this is the principal faculty employed. I mention theſe circumſtances, in order to ſatisfy the reader, why ſo many of the illuſtrations which occur in the following inquiries are borrowed from the arts of painting and of poetry.

It was already obſerved, that imagination is a complex power.* It includes conception or ſimple apprehenſion, which enables us to form a notion of thoſe former objects of perception or of know-

* See page 125.

ledge, out of which we are to make a ſelection; abſtraction, which ſeparates the ſelected materials from the qualities and circumſtances which are connected with them in nature; and judgment or taſte, which ſelects the materials, and directs their combination. To theſe powers, we may add, that particular habit of aſſociation to which I formerly gave the name of fancy; as it is this which preſents to our choice, all the different materials which are ſubſervient to the efforts of imagination, and which may therefore be conſidered as forming the groundwork of poetical genius.

To illuſtrate theſe obſervations, let us conſider the ſteps by which Milton muſt have proceeded in creating his imaginary Garden of Eden. When he firſt propoſed to himſelf that ſubject of deſcription, it is reaſonable to ſuppoſe, that a variety of the moſt ſtriking ſcenes which he had ſeen crowded into his mind. The aſſociation of ideas ſuggeſted them, and the power of conception placed each of them before him, with all its beauties and imperfections. In every natural ſcene, if we deſtine it for any particular purpoſe, there are defects and redundancies, which art may ſometimes, but cannot always, correct. But the power of imagination is unlimited. She can create and annihilate; and diſpoſe, at pleaſure, her woods, her rocks, and her rivers. Milton, accordingly, would not copy his Eden from any one ſcene, but would ſelect from each the features which were moſt eminently beautiful. The power of abſtraction enabled him to make the ſeparation, and taſte directed him in the ſelection. Thus he was furniſhed with his materials; by a ſkilful combination of which, he has created a landſcape, more perfect, probably, in all its parts, than ever was realized in nature; and certainly very different from any thing which this country exhibited, at the period when he wrote. It is a curious remark of Mr. Walpole, that Milton's Eden is free

from the defects of the old Engliſh garden, and is imagined on the ſame principles which it was reſerved for the preſent age to carry into execution.

From what has been ſaid, it is ſufficiently evident that imagination is not a ſimple power of the mind, like attention, conception, or abſtraction; but that it is formed by a combination of various faculties. It is farther evident, that it muſt appear under very different forms, in the caſe of different individuals; as ſome of its component parts are liable to be greatly influenced by habit, and other accidental circumſtances. The variety, for example, of the materials out of which the combinations of the poet or the painter are formed, will depend much on the tendency of external ſituation, to ſtore the mind with a multiplicity of conceptions; and the beauty of theſe combinations will depend entirely on the ſucceſs with which the power of taſte has been cultivated. What we call, therefore, the power of imagination, is not the gift of nature, but the reſult of acquired habits, aided by favourable circumſtances. It is not an original endowment of the mind, but an accompliſhment formed by experience and ſituation; and which, in its different gradations, fills up all the interval between the firſt efforts of untutored genius, and the ſublime creations of Raphael or of Milton.

An uncommon degree of imagination conſtitutes *poetical genius;* a talent which, although chiefly diſplayed in poetical compoſition, is alſo the foundation (though not preciſely in the ſame manner) of various other arts. A few remarks on the relation which imagination bears to ſome of the moſt intereſting of thoſe, will throw additional light on its nature and office.

SECTION II.

Of Imagination conſidered in its Relation to ſome of the Fine Arts.

AMONG the arts connected with imagination ſome not only take their riſe from this power, but produce objects which are addreſſed to it. Others take their riſe from imagination, but produce objects which are addreſſed to the power of perception.

To the latter of theſe two claſſes of arts, belongs that of gardening; or, as it has been lately called, the art of creating landſcape. In this art, the deſigner is limited in his creation by nature; and his only province is to correct, to improve, and to adorn. As he cannot repeat his experiments, in order to obſerve the effect, he muſt call up, in his imagination, the ſcene which he means to produce; and apply to this imaginary ſcene his taſte and his judgment; or, in other words, to a lively conception of viſible objects, he muſt add a power (which long experience and attentive obſervation alone can give him) of judging beforehand, of the effect which they would produce, if they were actually exhibited to his ſenſes. This power forms, what Lord Chatham beautifully and expreſſively called, *the prophetic eye of taſte*; that eye which (if I may borrow the language of Mr. Gray) "ſees all the beauties that a place is "ſuſceptible of, long before they are born; and "when it plants a ſeedling, already ſits under the "ſhade of it, and enjoys the effect it will have, "from every point of view that lies in the proſ-"pect."*

But although the artiſt who creates a landſcape, copies it from his imagination, the ſcene which he

* GRAY's Works, by MASON, p. 277.

exhibits is addreſſed to the ſenſes, and may produce its full effect on the minds of others, without any effort on their part, either of imagination or of conception.

To prevent being miſunderſtood, it is neceſſary for me to remark, that, in the laſt obſervation, I ſpeak merely of the natural effects produced by a landſcape, and abſtract entirely from the pleaſure which may reſult from an accidental aſſociation of ideas with a particular ſcene. The effect reſulting from ſuch aſſociations will depend, in a great meaſure, on the livelineſs with which the aſſociated objects are conceived, and on the affecting nature of the pictures which a creative imagination, when once rouſed, will preſent to the mind; but the pleaſures thus ariſing from the accidental exerciſe that a landſcape may give to the imagination, muſt not be confounded with thoſe which it is naturally fitted to produce.

In Painting, (excepting in thoſe inſtances in which it exhibits a faithful copy of a particular object) the original idea muſt be formed in the imagination: and, in moſt caſes, the exerciſe of imagination muſt concur with perception, before the picture can produce that effect on the mind of the ſpectator which the artiſt has in view. Painting, therefore, does not belong entirely to either of the two claſſes of Arts formerly mentioned, but has ſomething in common with them both.

In ſo far as the Painter aims at copying exactly what he ſees, he may be guided mechanically by general rules; and he requires no aid from that creative genius which is characteriſtical of the Poet. The pleaſure, however, which reſults from painting, conſidered merely as an imitative, art, is extremely trifling; and is ſpecifically different from that which it aims to produce, by awakening the imagtion. Even in portrait-painting, the ſervile copyiſt of nature is regarded in no higher light than that

of a tradeſman. "Deception," (as Reynolds has excellently obſerved) "inſtead of advancing the art, "is, in reality, carrying it back to its infant ſtate. "The firſt eſſays of painting were certainly nothing "but mere imitations of individual objects; and "when this amounted to a deception the artiſt had "accompliſhed his purpoſe."*

When the hiſtory or the landſcape painter indulges his genius, in forming new combinations of his own, he vies with the poet in the nobleſt exertion of the poetical art: and he avails himſelf of his profeſſional, ſkill as the poet avails himſelf of language, only to convey the ideas in his mind. To deceive the eye by accurate repreſentations of particular forms, is no longer his aim; but by the touches of an expreſſive pencil, to ſpeak to the imaginations of others. Imitation, therefore, is not the end which he propoſes to himſelf, but the means which he employs in order to accompliſh it: nay, if the imitation be carried ſo far as to preclude all exerciſe of the ſpectator's imagination, it will diſappoint, in a great meaſure, the purpoſe of the artiſt.

In poetry, and in every other ſpecies of compoſition, in which one perſon attempts, by means of language, to preſent to the mind of another, the objects of his own imagination; this power is neceſſary, though not in the ſame degree, to the author and to the reader. When we peruſe a deſcription, we naturally feel a diſpoſition to form, in our own minds, a diſtinct picture of what is deſcribed; and in proportion to the attention and intereſt which the ſubject excites, the picture becomes ſteady and determinate. It is ſcarcely poſſible for us to hear much of a particular town, without forming ſome notion of figure ſize and ſituation; and in reading hiſtory and poetry, I believe it ſeldom hap-

* Notes on MASON's Tranſlation of FRESNOY's Poem on the Art of Painting, p. 114.

pens, that we do not annex imaginary appearances to the names of our favourite characters. It is, at the same time, almost certain, that the imaginations of no two men coincide upon such occasions; and therefore, though both may be pleased, the agreeable impressions which they feel, may be widely different from each other, according as the pictures by which they are produced are more or less happily imagined. Hence it is, that when a person accustomed to dramatic reading sees, for the first time, one of his favourite characters represented on the stage, he is generally dissatisfied with the exhibition, however eminent the actor may be; and if he should happen, before this representation, to have been very familiarly acquainted with the character, the case may continue to be the same through life. For my own part, I have never received from any Falstaff on the stage, half the pleasure which Shakespeare gives me in the closet; and I am persuaded, that I should feel some degree of uneasiness, if I were present at any attempt to personate the figure or the voice of Don Quixote or Sancho Panza. It is not always that the actor, on such occasions, falls short of our expectation. He disappoints us, by exhibiting something different from what our imagination had anticipated, and which consequently appears to us, at the moment, to be an unfaithful representation of the poet's idea: and until a frequent repetition of the performance has completely obliterated our former impressions, it is impossible for us to form an adequate estimate of its merit.

Similar observations may be applied to other subjects. The sight of any natural scene, or of any work of art, provided we have not previously heard of it, commonly produces a greater effect, at first, than ever afterwards; but if, in consequence of a description, we have been led to form a previous notion of it, I apprehend, the effect will be found less pleasing, the first time it is seen, than the sec-

ond. Although the deſcription ſhould fall ſhort greatly of the reality, yet the diſappointment which we feel, on meeting with ſomething different from what we expected, diminiſhes our ſatisfaction. The ſecond time we ſee the ſcene, the effect of novelty is indeed leſs than before; but it is ſtill conſiderable, and the imagination now anticipates nothing which is not realized in the perception.

The remarks which have been made, afford a ſatisfactory reaſon why ſo few are to be found who have a genuine reliſh for the beauties of poetry. The deſigns of Kent and Brown evince in their authors a degree of imagination entirely analogous to that of the deſcriptive poet, but when they are once executed, their beauties, (excepting thoſe which reſult from aſſociation) meet the eye of every ſpectator. In poetry the effect is inconſiderable, unleſs upon a mind which poſſeſſes ſome degree of the author's genius, a mind amply furniſhed, by its previous habits, with the means of interpreting the language which he employs; and able, by its own imagination, to co-operate with the efforts of his art.

It has been often remarked, that the general words which expreſs complex ideas, ſeldom convey, preciſely, the ſame meaning to different individuals, and that hence ariſes the much of ambiguity of language. The ſame obſervation holds, in no inconſiderable degree, with reſpect to the names of ſenſible objects. When the words river, mountain, grove, occur in a deſcription, a perſon of lively conceptions naturally thinks of ſome particular river, mountain, and grove, that have made an impreſſion on his mind; and whatever the notions are which he is led by his imagination to form of theſe objects they muſt neceſſarily approach to the ſtandard of what he has ſeen. Hence it is evident that, according to the different habits and education of individuals; according to the livelineſs of their conceptions, and, according to the creative power of their

imaginations, the ſame words will produce very different effects on different minds. When a perſon who has received his education in the country, reads a deſcription of a rural retirement; the houſe, the river, the woods, to which he was firſt accuſtomed, preſent themſelves ſpontaneouſly to his conception, accompanied, perhaps, with the recollection of his early friendſhips, and all thoſe pleaſing ideas which are commonly aſſociated with the ſcenes of childhood and of youth. How different is the effect of the deſcription upon his mind, from what it would produce on one who has paſſed his tender years at a diſtance from the beauties of nature, and whoſe infant ſports are connected in his memory with the gloomy alleys of a commercial city!

But it is not only in interpreting the particular words of a deſcription, that the powers of imagination and conception are employed. They are farther neceſſary for filling up the different parts of that picture, of which the moſt minute deſcriber can only trace the outline. In the beſt deſcription, there is much left to the reader to ſupply; and the effect which it produces on his mind will depend, in a conſiderable degree, on the invention and taſte with which the picture is finiſhed. It is therefore poſſible, on the one hand, that the happieſt efforts of poetical genius may be peruſed with perfect indifference by a man of ſound judgment, and not deſtitute of natural ſenſibility; and on the other hand, that a cold and common-place deſcription may be the means of awakening, in a rich and glowing imagination, a degree of enthuſiaſm unknown to the author.

All the different arts which I have hitherto mentioned as taking riſe from the imagination, have this in common, that their primary object is to pleaſe. This obſervation applies to the art of poetry, no leſs than to the others; nay, it is this circumſtance which characteriſes poetry, and diſtinguiſhes it from

all the other claſſes of literary compoſition. The object of the philoſopher is to inform and enlighten mankind; that of the orator, to acquire an aſcendant over the will of others, by bending to his own purpoſes their judgments, their imaginations, and their paſſions; but the primary and the diſtinguiſhing aim of the poet, is, *to pleaſe*; and the principal reſource which he poſſeſſes for this purpoſe, is by addreſſing the imagination. Sometimes, indeed, he may ſeem to encroach on the province of the philoſopher or of the orator; but, in theſe inſtances, he only borrows from them the means by which he accompliſhes his end. If he attempts to enlighten and to inform, he addreſſes the underſtanding only as a vehicle of pleaſure: if he makes an appeal to the paſſions, it is only to paſſions which it is pleaſing to indulge. The philoſopher, in like manner, in order to accompliſh his end of inſtruction, may find it expedient occaſionally to amuſe the imagination, or to make an appeal to the paſſions: the orator may, at one time, ſtate to his hearers a proceſs of reaſoning; at another, a calm narrative of facts; and, at a third, he may give the reins to poetical fancy. But ſtill the ultimate end of the philoſopher is to inſtruct, and of the orator to perſuade; and whatever means they make uſe of, which are not ſubſervient to this purpoſe, are out of place, and obſtruct the effect of their labours.

The meaſured compoſition in which the poet expreſſes himſelf, is only one of the means which he employs to pleaſe. As the delight which he conveys to the imagination, is heightened by the other agreeable impreſſions which he can unite in the mind at the ſame time; he ſtudies to beſtow, upon the medium of communication which he employs, all the various beauties of which it is ſuſceptible. Among theſe beauties, the harmony of numbers is not the leaſt powerful; for its effect is conſtant, and does not interfere with any of the other pleaſures

which language produces. A ſucceſſion of agreeable perceptions is kept up by the organical effect of words upon the ear; while they inform the underſtanding by their perſpicuity and preciſion, or pleaſe the imagination by the pictures they ſuggeſt, or touch the heart by the aſſociations they awaken. Of all theſe charms of language, the poet may avail himſelf; and they are all ſo many inſtruments of his art. To the philoſopher and the orator they may *occaſionally* be of uſe; and to both they muſt be *conſtantly* ſo far an object of attention, that nothing may occur in their compoſitions, which may diſtract the attention, by offending either the ear or the taſte; but the poet muſt not reſt ſatisfied with this negative praiſe. Pleaſure is the end of his art; and the more numerous the ſources of it which he can open the greater will be the effect produced by the efforts of his genius.

The province of the poet is limited only by the variety of human enjoyments. Whatever is in the reality ſubſervient to our happineſs, is a ſource of pleaſure, when preſented to our conceptions, and may ſometimes derive from the heightenings of imagination, a momentary charm, which we exchange with reluctance for the ſubſtantial gratifications of the ſenſes. The province of the painter, and of the ſtatuary, is confined to the imitation of viſible objects, and to the exhibition of ſuch intellectual and moral qualities, as the human body is fitted to expreſs. In ornamental architecture, and in ornamental gardening, the ſole aim of the artiſt is to give pleaſure to the eye, by the beauty or ſublimity of material forms. But to the poet all the various charms of external nature; all that is amiable or intereſting, or reſpectable in human character; all that excites and engages our benevolent affections; all thoſe truths which make the heart feel itſelf better and more happy: all theſe ſupply materials, out of which he forms and peoples a

world of his own, where no inconveniencies damp our enjoyments, and where no ſhades darken our proſpects.

That the pleaſures of poetry ariſe chiefly from the agreeable feelings which it conveys to the mind by awakening the imagination, is a propoſition which may ſeem too obvious to ſtand in need of proof. As the ingenious inquirer, however, into "the origin of our ideas of the ſublime and beautiful," has diſputed the common notions upon this ſubject, I ſhall conſider ſome of the principal arguments by which he has ſupported his opinion.

The leading principle of the theory which I am now to examine is, "That the common effect of poetry is not to raiſe ideas of things;" or, as I would rather chuſe to expreſs it, its common effect is not to give exerciſe to the powers of conception and imagination. That I may not be accuſed of miſrepreſentation, I ſhall ſtate the doctrine at length, in the words of the author. "If words have all "their poſſible extent of power, three effects ariſe in "the mind of the hearer. The firſt is the *ſound*; the "ſecond the *picture*, or repreſentation of the thing "ſignified by the ſound; the third is, the *affection* "of the ſoul produced by one or by both of the "foregoing. Compounded abſtract words, (honour, juſtice, liberty, and the like) produce the firſt "and the laſt of theſe effects, but not the ſecond. "Simple abſtracts are uſed to ſignify ſome one ſimple idea, without much adverting to others which "may chance to attend it; as blue, green, hot, cold, "and the like: theſe are capable of effecting all "three of the purpoſes of words; as the aggregate "words, man, caſtle, horſe, &c. are in a yet higher degree. But I am of opinion, that the moſt "general effect even of theſe words, does not ariſe "from their forming pictures of the ſeveral things "they would repreſent in the imagination; becauſe "on a very diligent examination of my own mind,

" and getting others to consider theirs, I do not " find that once in twenty times any such picture " is formed; and when it is, there is most com- " monly a particular effort of the imagination for " that purpose. But the aggregate words operate, " as I said of the compound abstracts, not by pre- " senting any image to the mind, but by having " from use the same effect on being mentioned, that " their original has when it is seen. Suppose we " were to read a passage to this effect: " The river " Danube rises in a moist and mountainous soil in " the heart of Germany, where, winding to and fro, " it waters several principalities, until, turning into " Austria, and leaving the walls of Vienna, it passes " into Hungary; there, with a vast flood, augmen- " ted by the Saave and the Drave, it quits Christ- " endom and rolling through the barbarous coun- " tries which border on Tartary, it enters by many " mouths into the Black Sea." In this description " many things are mentioned; as mountains, rivers, " cities, the sea, &c. But let any body examine " himself, and see whether he has had impressed on " his imagination any pictures of a river, mountain, " watry soil, Germany, &c. Indeed, it is impossible " in the rapidity and quick succession of words in " conversation, to have ideas both of the sound of " the word, and of the thing represented; besides, " some words expressing real essences, are so mixed " with others of a general and nominal import, that " it is impracticable to jump from sense to thought, " from particulars to generals, from things to words " in such a manner as to answer the purposes of " life; nor is it necessary that we should."

In farther confirmation of this doctrine, Mr. Burke refers to the poetical works of the late amiable and ingenious Dr. Blacklock. " *Here*," says he, " *is a poet, doubtless as much affected by his own* " *descriptions, as any that reads them can be;* and " yet he is affected with this strong enthusiasm, by

" things of which he neither has, nor can poſſibly " have, any idea, farther than that of a bare ſound ; " and why may not thoſe who read his works be " affected in the ſame manner that he was, with as " little of any real ideas of the things deſcribed ?"

Before I proceed to make any remarks on theſe paſſages, I muſt obſerve in general, that I perfectly agree with Mr. Burke, in thinking that a very great proportion of the words which we habitually employ, have no effect to " raiſe ideas in the mind ?" or to exerciſe the powers of conception and imagination. My notions on this ſubject I have already ſufficiently explained in treating of Abſtraction.

I agree with him farther, that a great proportion of the words which are uſed in poetry and eloquence produce very powerful effects on the mind, by exciting emotions which we have been accuſtomed to aſſociate with particular ſounds ; without leading the imagination to form to itſelf any pictures or repreſentations : and his account of the manner in which ſuch words operate, appears to me ſatisfactory. " Such words are in reality but mere ſounds ; " but they are ſounds, which, being uſed on parti- " cular occaſions, wherein we receive ſome good, or " ſuffer ſome evil ; or ſee others affected with good " or evil ; or which we hear applied to other inter- " eſting things or events ; and being applied in ſuch " a variety of caſes, that we know readily by habit " to what things they belong, they produce in the " mind, whenever they are afterwards mentioned, " effects ſimilar to thoſe of their occaſions. The " ſounds being often uſed without reference to any " particular occaſion, and carrying ſtill their firſt " impreſſions, they at laſt utterly loſe their connex- " ion with the particular occaſions that give riſe to " them ; yet the ſound, without any annexed no- " tion, continues to operate as before.

Notwithſtanding, however, theſe conceſſions, I cannot admit that it is in this way that poetry pro-

duces its principal effect. Whence is it that general and abſtract expreſſions are ſo tame and lifeleſs, in compariſon of thoſe which are particular and figurative? Is it not becauſe the former do not give any exerciſe to the imagination, like the latter? The abſtract words *piety* and *reſignation* (for example) may undoubtedly excite ſome emotion, in conſequence of ſuch aſſociations as Mr. Burke has deſcribed; but how different is their effect, from that of the picture preſented in the two laſt lines of the following paſſage?

" A hermit on the banks of Trent,
" Far from the world's bewildering maze,
" To humbler ſcenes of calm content
" Had fled, from brighter, buſier days.

" If, haply, from his guarded breaſt
" Should ſteal the unſuſpected ſigh,
" And memory, an unbidden gueſt,
" With former paſſions fill'd his eye;

" Then pious hope and duty prais'd
" The wiſdom of th' unerring ſway;
" *And while his eye to heaven he rais'd,*
" *Its ſilent water ſunk away.*

In treating of abſtraction I formerly remarked, that the perfection of philoſophical language is to approach as nearly as poſſible to that ſpecies of language we employ in algebra, and to exclude every expreſſion which has a tendency to divert the attention by exciting the imagination, or to bias the judgment by caſual aſſociations. For this purpoſe the philoſopher ought to be ſparing in the employment of figurative words, and to convey his notions by general expreſſions which have been accurately defined. To the orator who wiſhes to miſlead the underſtanding, or to influence the paſſions, it may, on the ſame account, be frequently uſeful to clothe his reaſoning in a language approaching to that of

poetry. Hence may be traced a variety of rules, with reſpect to propriety of ſtyle, in theſe two kinds of compoſition; which rules can only be aſcertained, by conſidering the different ends which the philoſopher and the orator have in view.

In poetry, as truths and facts are introduced, not for the purpoſe of information, but to convey pleaſure to the mind, nothing offends more, than thoſe general expreſſions which form the great inſtrument of philoſophical reaſoning. The original pleaſures, which it is the aim of poetry to recal to the mind, are all derived from individual objects; and of conſequence, (with a very few exceptions, which it does not belong to my preſent ſubject to enumerate,) the more particular, and the more appropriated its language is, the greater will be the charm it poſſeſſes.

With reſpect to the deſcription of the courſe of the Danube already quoted, I ſhall not diſpute the reſult of the experiment to be as the author repreſents it. That words may often be applied to their proper purpoſes, without annexing any particular notions to them, I have formerly ſhewn at great length; and I ſhall admit that the meaning of this deſcription may be ſo underſtood. But to be underſtood is not the ſole object of the poet: his primary object is to pleaſe; and the pleaſure which he conveys will, in general, be found to be proportioned to the beauty and livelineſs of the images which he ſuggeſts. In the caſe of a poet born blind, the effect of poetry muſt depend on other cauſes; but whatever opinion we may form on this point, it appears to me impoſſible, that ſuch a poet ſhould receive, even from his own deſcriptions, the ſame degree of pleaſure which they may convey to a reader, who is capable of conceiving the ſcenes which are deſcribed. Indeed, this inſtance which Mr. Burke produces in ſupport of his theory, is ſufficient of itſelf to ſhew, that the theory cannot be true in the extent in which it is ſtated.

By way of contraſt to the deſcription of the Danube, I ſhall quote a ſtanza from Gray, which affords a very beautiful example of the two different effects of poetical expreſſion. The pleaſure conveyed by the two laſt lines reſolves almoſt entirely into Mr. Burke's principles; but, great as this pleaſure is, how inconſiderable is it in compariſon of that ariſing from the continued and varied exerciſe which the preceeding lines give to the imagination?

" In climes beyond the ſolar road,
" Where ſhaggy forms o'er ice-built mountains roam,
" The muſe has broke the twilight-gloom,
" To cheer the ſhiv'ring native's dull abode.
" And oft, beneath the od'rous ſhade,
" Of Chili's boundleſs foreſts laid,
" She deigns to hear the ſavage youth repeat,
" In looſe numbers wildly ſweet,
" Their feather-cinctur'd chiefs and duſky loves,
" Her track where'er the goddeſs roves,
" Glory purſue, and generous ſhame,
" Th' unconquerable mind, and freedom's holy flame.

I cannot help remarking further, the effect of the ſolemn and uniform flow of the verſe in this exquiſite ſtanza, in retarding the pronunciation of the reader; ſo as to arreſt his attention to every ſucceſſive picture, till it has time to produce its proper impreſſion. More of the charm of poetical rythm ariſes from this circumſtance, than is commonly imagined.

To thoſe who wiſh to ſtudy the theory of poetical expreſſion, no author in our language affords a richer variety, of illuſtrations than the poet laſt quoted. His merits, in many other reſpects, are great; but his ſkill in this particular is more peculiarly ſtriking. How much he had made the principles of this branch of his art an object of ſtudy, appears from his letters publiſhed by Mr. Maſon.

I have ſometimes thought, that in the laſt line of the following paſſage, he had in view the two dif-

ferent effects of words already described; the effect of some, in awakening the powers of conception and imagination: and that of others, in exciting associated emotions:

"Hark, his hands the lyre explore!
"Bright-ey'd Fancy, hov'ring o'er,
"Scatters from her pictur'd urn,
"Thoughts, that breathe, and words, that burn."

SECTION III.

Continuation of the same Subject.—Relation of Imagination and of Taste to Genius.

FROM the remarks made in the foregoing sections, it is obvious, in what manner a person accustomed to analyse and combine his conceptions, may acquire an idea of beauties superior to any which he has seen realised. It may also be easily inferred, that a habit of forming such intellectual combinations, and of remarking their effects on our own minds, must contribute to refine and to exalt the taste, to a degree which it never can attain in those men, who study to improve it by the observation and comparison of external objects only.

A cultivated taste, combined with a creative imagination, constitutes genius in the fine arts. Without taste, imagination could produce only a random analysis and combination of our conceptions; and without imagination, taste would be destitute of the faculty of invention. These two ingredients of genius may be mixed together in all possible proportions; and where either is possessed in a degree remarkably exceeding what falls to the ordinary share of mankind, it may compensate in some measure for a deficiency in the other. An uncommonly cor-

rect taste, with little imagination, if it does not produce works which excite admiration, produces at least nothing which can offend. An uncommon fertility of imagination, even when it offends, excites our wonder by its creative power; and shews what it could have performed, had its exertions been guided by a more perfect model.

In the infancy of the arts, an union of these two powers in the same mind is necessary for the production of every work of genius. Taste without imagination, is, in such a situation, impossible; for, as there are no monuments of ancient genius on which it can be formed, it must be the result of experiments, which nothing but the imagination of every individual can enable him to make. Such a taste must necessarily be imperfect, in consequence of the limited experience of which it is the result; but without imagination, it could not have been acquired even in this imperfect degree.

In the progress of the arts the case comes to be altered. The productions of genius accumulate to such an extent, that taste may be formed by a careful study of the works of others; and, as formerly imagination had served as a necessary foundation for taste, so taste begins now to invade the province of imagination. The combinations which the latter faculty has been employed in making, during a long succession of ages, approach to infinity; and present such ample materials to a judicious selection that, with a high standard of excellence, continually present to the thoughts, industry, assisted by the most moderate degree of imagination, will, in time, produce performances, not only more free from faults, but incomparably more powerful in their effects, than the most original efforts of untutored genius; which, guided by an uncultivated taste, copies after an inferior model of perfection. What Reynolds observes of painting, may be applied to all the other fine arts: that, "as the painter, by

" bringing together in one piece, thoſe beauties, " which are diſperſed among a great variety of in- " dividuals, produces a figure more beautiful than " can be found in nature; ſo that artiſt who can " unite in himſelf the excellencies of the various " painters, will approach nearer to perfection than " any of his maſters."*

SECTION IV.

Of the Influence of Imagination on Human Character and Happineſs.

HITHERTO we have conſidered the power of Imagination chiefly as it is connected with the fine arts. But it deſerves our attention ſtill more, on account of its extenſive influence on human character and happineſs.

The lower animals, as far as we are able to judge, are entirely occupied with the objects of their preſent perceptions: and the caſe is nearly the ſame with the inferior orders of our own ſpecies.—One of the principal effects which a liberal education produces on the mind, is to accuſtom us to withdraw our attention from the objects of ſenſe, and to direct it, at pleaſure, to thoſe intellectual combinations which delight the imagination. Even, however, among men of cultivated underſtandings, this faculty is poſſeſſed in very unequal degrees by different individuals; and theſe differences (whether reſulting from original conſtitution or from early education) lay the foundation of ſome ſtriking varieties in human character.

What we commonly call ſenſibility depends, in a great meaſure, on the power of imagination. Point

* Page 226.

out to two men any object of diſtreſs;—a man, for example, reduced by misfortune from eaſy circumſtances to indigence. The one feels merely in proportion to what he perceives by his ſenſes. The other follows, in imagination, the unfortunate man to his dwelling, and partakes with him and his family in their domeſtic diſtreſſes. He liſtens to their converſation, while they recal to remembrance the flattering proſpects which they once indulged; the circle of friends they had been forced to leave; the liberal plans of education which were begun and interrupted; and pictures out to himſelf all the various reſources which delicacy and pride ſuggeſt, to conceal poverty from the world. As he proceeds in the painting, his ſenſibility increaſes, and he weeps, not for what he ſees, but for what he imagines. It will be ſaid, that it was his ſenſibility which originally rouſed his imagination; and the obſervation is undoubtedly true; but it is equally evident, on the other hand, that the warmth of his imaginatoin increaſes and prolongs his ſenſibility.

This is beautifully illuſtated in the Sentimental Journey of Sterne. While engaged in a train of reflexion on the ſtate priſons in France, the accidental ſight of a ſtarling in a cage ſuggeſts to him the idea of a captive in his dungeon. He indulges his imagination, "and looks through the twilight "of the grated door to take the picture."

"I beheld," (ſays he) "his body half-waſted "away with long expectation and confinement, and "felt what kind of ſickneſs of the heart it is, which "ariſes from hope deferred. Upon looking near-"er, I ſaw him pale and feveriſh: in thirty years "the weſtern breeze had not once fanned his blood: "he had ſeen no ſun, no moon, in all that time, "nor had the voice of friend or kinſman breathed "through his lattice.——His children.——But here "my heart began to bleed, and I was forced to go "on with another part of the portrait.

" He was ſitting upon the ground, in the fartheſt " corner of his dungeon, on a little ſtraw, which " was alternately his chair and bed: a little calen- " der of ſmall ſticks was laid at the head, notched " all over with the diſmal days and nights he had " paſſed there:—he had one of theſe little ſticks in " his hand, and with a ruſty nail he was etching " another day of miſery to add to the heap. As I " darkened the little light he had, he lifted up a " hopeleſs eye towards the door, then caſt it down, " ſhook his head, and went on with his work of af- " fliction."

The foregoing obſervations may account, in part for the effect which exhibitions of fictitious diſtreſs produce on ſome perſons, who do not diſcover much ſenſibility to the diſtreſſes of real life. In a Novel, or a Tragedy, the picture is completely finiſhed in all its parts; and we are made acquainted, not only with every circumſtance on which the diſtreſs turns, but with the ſentiments and feelings of every character with reſpect to his ſituation. In real life we ſee, in general, only detached ſcenes of the Tragedy; and the impreſſion is ſlight, unleſs imagination finiſhes the characters, and ſupplies the incidents that are wanting.

It is not only to ſcenes of diſtreſs that imagination increaſes our ſenſibility. It gives us a double ſhare in the proſperity of others, and enables us to partake, with a more lively intereſt, in every fortunate incident that occurs either to individuals or to communities. Even from the productions of the earth, and the viciſſitudes of the year, it carries forward our thoughts to the enjoyments they bring to the ſenſitive creation, and, by intereſting our benevolent affections in the ſcenes we behold, lends a new charm to the beauties of nature.

I have often been inclined to think, that the apparent coldneſs and ſelfiſhneſs of mankind may be traced, in a great meaſure, to a want of attention

and a want of imagination. In the case of misfortunes which happen to ourselves, or to our near connexions, neither of these powers is necessary to make us acquainted with our situation; so that we feel, of necessity, the correspondent emotions. But without an uncommon degree of both, it is impossible for any man to comprehend completely the situation of his neighbour, or to have an idea of a great part of the distress which exists in the world. If we feel therefore more for ourselves than for others, the difference is to be ascribed, at least partly, to this; that, in the former case, the facts which are the foundation of our feelings, are more fully before us, than they possibly can be in the latter.

In order to prevent misapprehensions of my meaning, it is necessary for me to add, that I do not mean to deny that it is a law of our nature, in cases in which there is an interference between our own interest and that of other men, to give a certain degree of preference to ourselves: even supposing our neighbour's situation to be as completely known to us as our own. I only affirm, that, where this preference becomes blameable and unjust, the effect is to be accounted for partly in the way I mentioned.* One striking proof of this is, the powerful emotions which may be occasionally excited in the minds of the most callous, when the attention has once been fixed, and the imagination awakened, by eloquent and circumstantial and pathetic description.

A very amiable and profound moralist, in the account which he has given of the origin of our sense of justice, has, I think, drawn a less pleasing picture of the natural constitution of the human mind, than is agreeable to truth. "To disturb," (says he,) "the happiness of our neighbour, merely because it "stands in the way of our own; to take from him

* I say partly; for habits of inattention to the situation of other men, undoubtedly presuppose some defect in the social affections.

" what is of real uſe to him, merely becauſe it may
" be of equal or of more uſe to us; or, to indulge
" in this manner, at the expence of other people, the
" natural preference which every man has for his
" own happineſs above that of other people, is what
" no impartial ſpectator can go along with. Every
" man is, no doubt firſt and principally recommend-
" ed to his own care; and as he is fitter to take care
" of himſelf than of any other perſon, it is fit and
" right that it ſhould be ſo. Every man, therefore,
" is much more deeply intereſted in whatever im-
" mediately concerns himſelf, than in what con-
" cerns any other man: and to hear, perhaps, of the
" death of another perſon with whom we have no
" particular connexion, will give us leſs concern,
" will ſpoil our ſtomach, or break our reſt, much
" leſs than a very inſignificant diſaſter which has
" befallen ourſelves. But though the ruin of our
" neighbour may affect us much leſs than a very
" ſmall misfortune of our own, we muſt not ruin
" him to prevent that ſmall misfortune, nor even
" to prevent our own ruin. We muſt here, as in
" all other caſes, view ourſelves, not ſo much ac-
" cording to that light in which we may naturally
" appear to ourſelves, as according to that in which
" we naturally appear to others. Though every
" man may, according to the proverb, be the whole
" world to himſelf, to the reſt of mankind he is a
" moſt inſignificant part of it. Though his own
" happineſs may be of more importance to him than
" that of the world beſides, to every other perſon
" it is of no more conſequence than that of any
" other man. Though it may be true, therefore,
" that every individual, in his own breaſt, natur-
" ally prefers himſelf to all mankind, yet he dares
" not look mankind in the face, and avow that he
" acts according to this principle. He feels that,
" in this preference, they can never go along with
" him, and that how natural ſoever it may be to

" him, it muſt always appear exceſſive and extrava-
" gant to them. When he views himſelf in the
" light in which he is conſcious that others will
" view him, he ſees that to them he is but one of
" the multitude, in no reſpect better than any other
" in it. If he would act ſo as that the impartial
" ſpectator may enter into the principles of his con-
" duct, which is what of all things he has the great-
" eſt deſire to do, he muſt, upon this, as upon all
" other occaſions, humble the arrogance of his ſelf-
" love, and bring it down to ſomething which other
" men can go along with."

I am ready to acknowledge, that there is much truth in this paſſage; and that a prudential regard to the opinion of others, might teach a man of good ſenſe, without the aid of more amiable motives, to conceal his unreaſonable partialities in favour of himſelf, and to act agreeably to what he conceives to be the ſentiments of impartial ſpectators. But I cannot help thinking, that the fact is much too ſtrongly ſtated with reſpect to the natural partiality of ſelf-love, ſuppoſing the ſituation of our neighbours, to be as completely preſented to our view, as our own muſt of neceſſity be. When the orator wiſhes to combat the ſelfiſh paſſions of his audience, and to rouſe them to a ſenſe of what they owe to mankind; what mode of perſuaſion does nature dictate to him? Is it to remind them of the importance of the good opinion of the world, and of the neceſſity, in order to obtain it, of accommodating their conduct to the ſentiments of others, rather than to their own feelings? Such conſiderations undoubtedly might, with ſome men, produce a certain effect; and might lead them to aſſume the appearance of virtue; but they would never excite a ſentiment of indignation at the thought of injuſtice or a ſudden and involuntary burſt of diſintereſted affection. If the orator can only ſucceed in fixing their attention to facts, and in bringing theſe facts

home to their imagination by the power of his eloquence, he has completely attained his object. No sooner are the facts apprehended, than the benevolent principles of our nature display themselves in all their beauty. The most cautious and timid lose, for a moment, all thought of themselves, and despising every consideration of prudence or of safety, become wholly engrossed with the fortunes of others.

Many other facts, which are commonly alledged as proofs of the original selfishness of mankind, may be explained, in part, in a similar way; and may be traced to habits of inattention, or to a want of imagination, arising, probably, from some fault in early education.

What has now been remarked with respect to the social principles, may be applied to all our other passions, excepting those which take their rise from the body. They are commonly strong in proportion to the warmth and vigour of the imagination.

It is, however, extremely curious, that when an imagination, which is naturally phlegmatic, or which, like those of the vulgar, has little activity from a want of culture, is fairly roused by the descriptions of the orator or of the poet, it is more apt to produce the violence of enthusiasm, than in minds of a superior order. By giving this faculty occasional exercise, we acquire a great degree of command over it. As we can withdraw the attention at pleasure from objects of sense, and transport ourselves into a world of our own, so, when we wish to moderate our enthusiasm, we can dismiss the objects of imagination and return to our ordinary perceptions and occupations. But in a mind to which these intellectual visions are not familiar, and which borrows them completely from the genius of another, imagination, when once excited, becomes perfectly ungovernable, and produces something like a temporary insanity. Hence the wonderful

effects of popular eloquence on the lower orders; effects which are much more remarkable than what it ever produces on men of education.

SECTION V.

Continuation of the same Subject.—Inconveniencies resulting from an ill-regulated Imagination.

IT was undoubtedly the intention of nature, that the objects of perception should produce much stronger impressions on the mind than its own operations. And accordingly, they always do so, when proper care has been taken in early life, to exercise the different principles of our constitution. But it is possible, by long habits of solitary reflexion, to reverse this order of things, and to weaken the attention to sensible objects to so great a degree, as to leave the conduct almost wholly under the influence of imagination. Removed to a distance from society, and from the pursuits of life, when we have been long accustomed to converse with our own thoughts, and have found our activity gratified by intellectual exertions, which afford scope to all our powers and affections, without exposing us to the inconveniencies resulting from the bustle of the world, we are apt to contract an unnatural predilection for meditation, and to lose all interest in external occurrences. In such a situation too, the mind gradually loses that command which education, when properly conducted, gives it over the train of its ideas; till at length the most extravagant dreams of imagination acquire as powerful an influence in exciting all its passions, as if they were realities. A wild and mountainous country, which presents but a limited variety of objects, and these only of such a sort as "awake to solemn thought," has a remarkable effect in cherishing this enthusiasm.

When ſuch diſorders of the imagination have been long confirmed by habit, the evil may perhaps be beyond a remedy; but in their inferior degrees, much may be expected from our own efforts; in particular, from mingling gradually in the buſineſs and amuſements of the world; or, if we have ſufficient force of the mind for the exertion, from reſolutely plunging into thoſe active and intereſting and hazardous ſcenes, which by compelling us to attend to external circumſtances, may weaken the impreſſions of imagination, and ſtrengthen thoſe produced by realities. The advice of the poet, in theſe caſes, is equally beautiful and juſt:

" Go, ſoft enthuſiaſt! quit the cypreſs groves,
" Nor to the rivulet's lonely moanings tune
" Your ſad complaint. Go, ſeek the cheerful haunts
" Of men, and mingle with the buſtling crowd;
" Lay ſchemes for wealth, or power, or fame, the wiſh
" Of nobler minds, and puſh them night and day.
" Or join the caravan in queſt of ſcenes
" New to your eyes and ſhifting every hour,
" Beyond the Alps, beyond the Appenines.
" Or, more adventurous ruſh into the field
" Where war grows hot: and raging through the ſky,
" The lofty trumpet ſwells the madd'ning ſoul;
" And in the hardy camp and toilſome march,
" Forget all ſofter and leſs manly cares.*

The diſordered ſtate of mind to which theſe obſervations refer is the more intereſting, that it is chiefly incident to men of uncommon ſenſibility and genius. It has been often remarked, that there is a connexion between genius and melancholy: and there is one ſenſe of the word *melancholy*, in which the remark is undoubtedly true; a ſenſe which it may be difficult to define, but in which it implies nothing either gloomy or malevolent.† This, I think,

* Armſtrong.

† Διὰ τι παντες εσοι περιττοι γεγοιασιν ανδρες, η κατα φιλοσοφιαν, η πολιτικην, η ποιησιν, η τεχνας, φαινονται μελαγχολικοι οντες
Ariſtot. Problem. ſect. xxx.

is not only confirmed by facts, but may be inferred from ſome principles which were formerly ſtated on the ſubject of invention; for as the diſpoſition now alluded to has a tendency to retard the current of thought, and to collect the attention of the mind, it is peculiarly favourable to the diſcovery of thoſe profound concluſions, which reſult from an accurate examination of the leſs obvious relations among our ideas. From the ſame principles, too, may be traced ſome of the effects which ſituation and early education produce on the intellectual character. Among the natives of wild and ſolitary countries we may expect to meet with ſublime exertions of poetical imagination and of philoſophical reſearch; while thoſe men whoſe attention has been diſſipated from infancy amidſt the buſtle of the world, and whoſe current of thought has been trained to yield and accommodate itſelf, every moment to the rapid ſucceſſion of trifles, which diverſify faſhionable life, acquire without any effort on their part, the intellectual habits which are favourable to gaiety, vivacity, and wit.

When a man, under the habitual influence of a warm imagination, is obliged to mingle occaſionally in the ſcenes of real buſineſs, he is perpetually in danger of being miſled by his own enthuſiaſm. What we call good ſenſe in the conduct of life, conſiſts chiefly in that temper of mind which enables its poſſeſſor to view at all times, with perfect coolneſs and accuracy, all the various circumſtances of his ſituation; ſo that each of them may produce its due impreſſion on him, without any exaggeration ariſing from his own peculiar habits. But to a man of an ill-regulated imagination, external circumſtances only ſerve as hints to excite his own thoughts, and the conduct he purſues has, in general, far leſs reference to his real ſituation, than to ſome imaginary one, in which he conceives himſelf to be placed: in conſequence of which, while he appears to him-

ſelf to be acting with the moſt perfect wiſdom and conſiſtency, he may frequently exhibit to others all the appearances of folly. Such, pretty nearly, ſeems to be the idea which the Author* of the "Reflexions on the Character and Writing of Rouſſeau," has formed of that extraordinary man. "His faculties," we are told, "were ſlow in their operation, but his heart was ardent: it was in conſequence of his own meditations that he became impaſſioned: he diſcovered no ſudden emotions, but all his feelings grew upon reflexion. It has, perhaps, happened to him to fall in love gradually with a woman, by dwelling on the idea of her during her abſence. Sometimes he would part with you with all his former affection; but if an expreſſion had eſcaped you, which might bear an unfavourable conſtruction, he would recollect it, examine it, exaggerate it, perhaps dwell upon it for a month, and conclude by a total breach with you. Hence it was, that there was ſcarce a poſſibility of undeceiving him; for the light which broke in upon him at once was not ſufficient to efface the wrong impreſſions which had taken place ſo gradually in his mind. It was extremely difficult, too, to continue long on an intimate footing with him. A word, a geſture, furniſhed him with matter of profound meditation: he connected the moſt trifling circumſtances, like ſo many mathematical propoſitions, and conceived his concluſions to be ſupported by the evidence of demonſtration. I believe," continues this ingenious writer, "that imagination was the ſtrongeſt of his faculties, and that it had almoſt abſorbed all the reſt. He dreamed rather than exiſted, and the events of his life might be ſaid, more properly to have paſſed in his mind, than without him: a mode of being one ſhould have thought, that

* Madame de STAEL.

"that ought to have ſecured him from diſtruſt, as "it prevented him from obſervation; but the truth "was, it did not hinder him from attempting to "obſerve; it only rendered his obſervations erron-"eous. That his ſoul was tender, no one can doubt, "after having read his works; but his imagination "ſometimes interperſed between his reaſon and his "affections, and deſtroyed their influence: he ap-"peared ſometimes void of ſenſibility; but it was "becauſe he did not perceive objects ſuch as they "were. Had he ſeen them with our eyes, his heart "would have been more afflicted than ours."

In this very ſtriking deſcription we ſee the melancholy picture of ſenſibility and genius approaching to inſanity. It is a caſe, probably, that but rarely occurs, in the extent here deſcribed; but, I believe there is no man who has lived much in the world, who will not trace many reſembling features to it, in the circle of his own acquaintances: perhaps there are few, who have not been occaſionally conſcious of ſome reſemblance to it in themſelves.

To theſe obſervations we may add, that by an exceſſive indulgence in the pleaſures of imagination the taſte may acquire a faſtidious refinement, unſuitable to the preſent ſituation of human nature; and thoſe intellectual and moral habits, which ought to be formed by actual experience of the world, may be gradually ſo accommodated to the dreams of poetry and romance, as to diſqualify us for the ſcene in which we are deſtined to act. Such a diſtempered ſtate of the mind is an endleſs ſource of error; more particularly when we are placed in thoſe critical ſituations, in which our conduct determines our future happineſs or miſery; and which, on account of this extenſive influence on human life, form the principal ground-work of fictitious compoſition. The effect of novels, in miſleading the paſſions of youth, with reſpect to the moſt intereſting and important of all relations, is one

of the many inſtances of the inconveniences reſulting from an ill-regulated imagination.

The paſſion of love has been, in every age, the favourite ſubject of the poets, and has given birth to the fineſt productions of human genius. Theſe are the natural delight of the young and ſuſceptible, long before the influence of the paſſions is felt; and from theſe a romantic mind forms to itſelf an ideal model of beauty and perfection, and becomes enamored of its own creation. On a heart which has been long accuſtomed to be thus warmed by the imagination, the excellencies of real characters make but a ſlight impreſſion: and accordingly, it will be found, that men of a romantic turn, unleſs when under the influence of violent paſſions, are ſeldom attached to a particular object. Where, indeed, ſuch a turn is united with a warmth of temperament, the effects are different but they are equally fatal to happineſs. As the diſtinctions which exiſt among real characters are confounded by falſe and exaggerated conceptions of ideal perfection, the choice is directed to ſome object by caprice and accident; a ſlight reſemblance is miſtaken for an exact coincidence; and the deſcriptions of the poet and noveliſt are applied literally to an individual, who, perhaps, falls ſhort of the common ſtandard of excellence. "I am certain," ſays the author laſt quoted in her account of the character of Rouſſeau, "that "he never formed an attachment which was not "founded on caprice. It was illuſions alone that "could captivate his paſſions; and it was neceſſa"ry for him always to accompliſh his miſtreſs from "his own fancy. I am certain alſo," ſhe adds, "that "the woman whom he loved the moſt, and per"haps the only woman whom he loved conſtantly, "was his own *Julie*."

In the caſe of this particular paſſion, the effects of a romantic imagination are obvious to the moſt careleſs obſerver; and they have often led moraliſts to

regret, that a temper of mind ſo dangerous to happineſs ſhould have received ſo much encouragement from ſome writers of our own age, who might have employed their genius to better purpoſes. Theſe, however, are not the only effects which ſuch habits of ſtudy have on the character. Some others which are not ſo apparent at firſt view, have a tendency, not only to miſlead us where our own happineſs is at a ſtake, but to defeat the operation of thoſe active principles, which were intended to unite us to ſociety. The manner in which imagination influences the mind, in the inſtances which I allude to at preſent, is curious, and deſerves a more particular explanation.

I ſhall have occaſion afterwards to ſhew,* in treating of our moral powers, that experience diminiſhes the influence of paſſive impreſſions on the mind, but ſtrengthens our active principles. A courſe of debauchery deadens the ſenſe of pleaſure, but increaſes the deſire of gratification. An immoderate uſe of ſtrong liquors deſtroys the ſenſibility of the palate, but ſtrengthens the habit of intemperance. The enjoyments we derive from any favourite purſuit gradually decay as we advance in years; and yet we continue to proſecute our favourite purſuits with increaſing ſteadineſs and vigour.

On theſe two laws of our nature is founded our capacity of moral improvement. In proportion as we are accuſtomed to obey our ſenſe of duty, the influence of the temptations to vice is diminiſhed; while, at the ſame time, our habit of virtuous conduct is confirmed. How many paſſive impreſſions, for inſtance, muſt be overcome, before the virtue of beneficence can exert itſelf uniformly and habitually! How many circumſtances are there in the diſ-

* The following reaſoning was ſuggeſted to me by a paſſage in Butler's Analogy, which the reader will find in note [U] at the end of the volume.

treſſes of others which have a tendency to alienate our hearts from them, and which prompt us to withdraw from the ſight of the miſerable! The impreſſions we receive from theſe, are unfavorable to virtue; their force, however, every day diminiſhes, and it may perhaps, by perſeverance, be wholly deſtroyed. It is thus that the character of the beneficent man is formed. The paſſive impreſſions which he felt originally, and which counteracted his ſenſe of duty, have loſt their influence, and a habit of beneficence is become part of his nature.

It muſt be owned, that this reaſoning may, in part, be retorted; for among thoſe paſſive impreſſions, which are weakened by repetition, there are ſome which have a beneficial tendency. The uneaſineſs, in particular, which the ſight of diſtreſs occaſions, is a ſtrong incentive to acts of humanity; and it cannot be denied that it is leſſened by experience. This might naturally lead us to expect that the young and unpractiſed would be more diſpoſed to perform beneficent actions, than thoſe who are advanced in life, and who have been familiar with ſcenes of miſery. And, in truth, the fact would be ſo, were it not that the effect of cuſtom on this paſſive impreſſion is counteracted by its effect on others; and, above all, by its influence in ſtrengthening the active habit of beneficence. An old and experienced phyſician is leſs affected by the ſight of bodily pain, than a younger practitioner; but he has acquired a more confirmed habit of aſſiſting the ſick and helpleſs, and would offer greater violence to his nature, if he ſhould with-hold from them any relief that he has in his power to beſtow. In this caſe, we ſee a beautiful proviſion made for our moral improvement, as the effects of experience on one part of our conſtitution, are made to counteract its effects on another.

If the foregoing obſervations be well founded, it will follow, that habits of virtue are not to be form-

ed in retirement, but by mingling in the ſcenes of active life, and that an habitual attention to exhibitions of fictitious diſtreſs, is not merely uſeleſs to the character, but poſitively hurtful.

It will not, I think, be diſputed, that the frequent peruſal of pathetic compoſitions diminiſhes the uneaſineſs which they are naturally fitted to excite. A perſon who indulges habitually in ſuch ſtudies, may feel a growing deſire of his uſual gratification, but he is every day leſs and leſs affected by the ſcenes which are preſented to him. I believe it would be difficult to find an actor long hackneyed on the ſtage, who is capable of being completely intereſted by the diſtreſſes of a tragedy. The effect of ſuch compoſitions and repreſentations, in rendering the mind callous to actual diſtreſs, is ſtill greater; for as the imagination of the poet almoſt always carries him beyond truth and nature, a familiarity with the tragic ſcenes which he exhibits, can hardly fail to deaden the impreſſion produced by the comparatively trifling ſufferings which the ordinary courſe of human affairs preſents to us. In real life, a proviſion is made for this gradual decay of ſenſibility, by the proportional decay of other paſſive impreſſions, which have an oppoſite tendency, and by the additional force which our active habits are daily acquiring. Exhibitions of fictitious diſtreſs, while they produce the former change on the character, have no influence in producing the latter: on the contrary, they tend to ſtrengthen thoſe paſſive impreſſions which counteract beneficence. The ſcenes into which the novelliſt introduces us are, in general, perfectly unlike thoſe which occur in the world. As his object is to pleaſe, he removes from his deſcriptions every circumſtance which is diſguſting, and preſents us with hiſtories of elegant and dignified diſtreſs. It is not ſuch ſcenes that human life exhibits. We have to act, not with refined and elevated characters, but

but with the mean, the illiterate, the vulgar, and the profligate. The perusal of fictitious history has a tendency to increase the disgust which we naturally feel at the concomitants of distress, and to cultivate a false refinement of taste, inconsistent with our conditions as members of society. Nay it is possible for this refinement to be carried so far, as to withdraw a man from the duties of life, and even from the sight of those distresses which he might alleviate. And accordingly many are to be found who, if the situations of romance were realised, would not fail to display the virtues of their favorite characters, whose sense of duty is not sufficiently strong to engage them in the humble and private scenes of human misery.

To these effects of fictitious history we may add, that it gives no exercise to our active habits. In real life, we proceed from the passive impression to those exertions which it was intended to produce. In the contemplation of imaginary sufferings, we stop short at the impression, and whatever benevolent dispositions we may feel, we have no opportunity of carrying them into action.

From these reasonings it appears, that an habitual attention to exhibitions of fictitious distress, is in every view calculated to check our moral improvement. It diminishes that uneasiness which we feel at the sight of distress, and which prompts us to relieve it. It strengthens that disgust which the loathsome concomitants of distress excite in the mind, and which prompts us to avoid the sight of misery; while, at the same time, it has no tendency to confirm those habits of active beneficence, without which the best dispositions are useless. I would not, however, be understood to disapprove entirely of fictitious narratives, or of pathetic compositions. On the contrary, I think that the perusal of them, may be attended with advantage, when the effects which I have mentioned are corrected by habits of

real buſineſs. They ſoothe the mind when ruffled by the rude intercourſe of ſociety, and, ſtealing the attention inſenſibly from our own cares, ſubſtitute, inſtead of diſcontent and diſtreſs, a tender and pleaſing melancholy. By exhibitions of characters a little elevated above the common ſtandard, they have a tendency to cultivate the taſte in life; to quicken our diſguſt at what is mean or offenſive, and to form the mind inſenſibly to elegance and dignity. Their tendency to cultivate the powers of moral perception has never been diſputed; and when the influence of ſuch perceptions is powerfully felt, and is united with an active and manly temper, they render the character not only more amiable, but more happy in itſelf, and more uſeful to others; for although a rectitude of judgment with reſpect to conduct, and ſtrong moral feelings, do by no means, alone conſtitute virtue; yet they are frequently neceſſary, to direct our behaviour in the more critical ſituations of life; and they increaſe the intereſt we take in the general proſperity of virtue in the world. I believe, likewiſe, that, by means of fictitious hiſtory, diſplays of character may be moſt ſucceſsfully given, and the various weakneſs of the heart expoſed. I only meant to inſinuate, that a taſte for them may be carried too far; that the ſenſibility which terminates in imagination, is but a refined and ſelfiſh luxury; and that nothing can effectually advance our moral improvement, but an attention to the active duties which belong to our ſtations.

SECTION V.

Continuation of the ſame Subject.—Important Uſes to which the Power of Imagination is ſubſervient.

THE faculty of imagination is the great ſpring of human activity, and the principal ſource

of human improvement. As it delights in preſenting to the mind ſcenes and characters more perfect than thoſe which we are acquainted with, it prevents us from ever being completely ſatisfied with our preſent condition, or with our paſt attainments, and engages us continually in the purſuit of ſome untried enjoyment, or of ſome ideal excellence. Hence the ardour of the ſelfiſh to better their fortunes, and to add to their perſonal accompliſhments; and hence the zeal of the Patriot and the Philoſopher to advance the virtue and the happineſs of the human race. Deſtroy this faculty, and the condition of man will become as ſtationary as that of the brutes.

When the notions of enjoyment or of excellence which imagination has formed, are greatly raiſed above theo rdinary ſtandard, they intereſt the paſſions too deeply to leave us at all times the cool exerciſe of reaſon, and produce that ſtate of the mind which is commonly known by the name of enthuſiaſm; a temper which is one of the moſt fruitful ſources of error and diſappointment; but which is a ſource, at the ſame time, of heroic actions and of exalted characters. To the exaggerated conceptions of eloquence which perpetually revolved in the mind of Cicero; to that idea which haunted his thoughts of *aliquid immenſum infinitumque;* we are indebted for ſome of the moſt ſplendid diſplays of human genius: and it is probable that ſomething of the ſame kind has been felt by every man who has riſen much above the level of humanity, either in ſpeculation or in action. It is happy for the individual, when theſe enthuſiaſtic deſires are directed to events which do not depend on the caprice of fortune.

The pleaſure we receive from the higher kinds of poetry takes riſe, in part, from that diſſatisfaction which the objects of imagination inſpire us with, for the ſcenes, the events, and the characters, with which our ſenſes are converſant. Tired and diſ-

guſted with this world of imperfection, we delight to eſcape to another of the poet's creation, where the charms of nature wear an eternal bloom, and where ſources of enjoyment are opened to us, ſuited to the vaſt capacities of the human mind. On this natural love of poetical fiction, lord Bacon has founded a very ingenious argument for the ſoul's immortality; and, indeed, one of the moſt important purpoſes to which it is ſubſervient, is to elevate the mind above the purſuits of our preſent condition, and to direct the views to higher objects. In the mean time, it is rendered ſubſervient alſo, in an eminent degree, to the improvement and happineſs of mankind, by a tendency which it has to accelerate the progreſs of ſociety.

As the pictures which the poet preſents to us are never (even in works of pure deſcription) faithful copies from nature, but are always meant to be improvements on the original ſhe affords, it cannot be doubted that they muſt have ſome effect in refining and exalting our taſte, both with reſpect to material beauty, and to the objects of our purſuit in life. It has been alledged, that the works of our deſcriptive poets have contributed to diffuſe that taſte for pictureſque beauty, which is ſo prevalent in England, and to recal the public admiration from the fantaſtic decorations of art, to the more powerful and permanent charms of cultivated nature; and it is certain, that the firſt ardours of many an illuſtrious character have been kindled by the compoſitions of Homer and Virgil. It is difficult to ſay, to what a degree, in the earlier periods of ſociety, the rude compoſitions of the bard and the minſtrel may have been inſtrumental in humanizing the minds of ſavage warriors, and in accelerating the growth of cultivated manners. Among the Scandinavians and the Celtæ we know that this order of men was held in very peculiar veneration; and, accordingly, it would appear

from the monuments which remain of these nations, that they were distinguished by a delicacy in the passion of love, and by a humanity and generosity to the vanquished in war, which seldom appear among barbarous tribes; and with which it is hardly possible to conceive how men in such a state of society could have been inspired, but by a separate class of individuals in the community, who devoted themselves to the pacific profession of poetry, and to the cultivation of that creative power of the mind, which anticipates the course of human affairs; and presents, in prophetic vision, to the poet and the philosopher, the blessings which accompany the progress of reason and refinement.

Nor must we omit to mention the important effects of imagination in multiplying the sources of innocent enjoyment, beyond what this limited scene affords. Not to insist on the nobler efforts of genius, which have rendered this part of our constitution subservient to moral improvement; how much has the sphere of our happiness been extended by those agreeable fictions which introduce us to new worlds, and make us acquainted with new orders of being! What a fund of amusement, through life is prepared for one who reads, in his childhood, the fables of ancient Greece! They dwell habitually on the memory, and are ready, at all times, to fill up the intervals of business, or of serious reflection; and in his hours of rural retirement and leisure, they warm his mind with the fire of ancient genius, and animate every scene he enters, with the offspring of classical fancy.

It is however chiefly in painting future scenes that imagination loves to indulge herself, and her prophetic dreams are almost always favourable to happiness. By an erroneous education, indeed, it is possible to render this faculty an instrument of constant and of exquisite distress; but in such cases (abstracting from the influence of a constitutional

melancholy) the diſtreſſes of a gloomy imagination are to be aſcribed not to nature, but the force of early impreſſions.

The common bias of the mind undoubtedly is, (ſuch is the benevolent appointment of providence,) to think favourably of the future; to overvalue the chances of poſſible good, and to under-rate the riſks of poſſible evil; and in the caſe of ſome fortunate individuals, this diſpoſition remains after a thouſand diſappointments. To what this bias of our nature is owing, it is not material for us to inquire: the fact is certain, and it is an important one to our happineſs. It ſupports us under the real diſtreſſes of life, and cheers and animates all our labours: and although it is ſometimes apt to produce in a weak and indolent mind, thoſe deceitful ſuggeſtions of ambition and vanity, which lead us to ſacrifice the duties and the comforts of the preſent moment, to romantic hopes and expectations; yet it muſt be acknowledged, when connected with habits of activity, and regulated by a ſolid judgment, to have a favourable effect on the character, by inſpiring that ardour and enthuſiaſm which both prompt to great enterpriſes, and are neceſſary to enſure their ſucceſs. When ſuch a temper is united (as it commonly is) with pleaſing notions, concerning the order of the univerſe, and in particular concerning the condition and the proſpects of man, it places our happineſs, in a great meaſure, beyond the power of fortune. While it adds a double reliſh to every enjoyment, it blunts the edge of all our ſufferings; and even when human life preſents to us no object on which our hopes can reſt, it invites the imagination beyond the dark and troubled horizon which terminates all our earthly proſpects, to wander unconfined in the regions of futurity. A man of benevolence, whoſe mind is enlarged by philoſophy, will indulge the ſame agreeable anticipations with reſpect to ſociety;

will view all the different improvements in arts, in commerce, and in the ſciences, as co-operating to promote the union, the happineſs, and the virtue of mankind ; and amidſt the political diſorders reſulting from the prejudices and the follies of his own times, will look forward with tranſport, to the bleſſings which are reſerved for poſterity in a more enlightened age.

NOTES

AND

ILLUSTRATIONS.

NOTES, &c.

NOTE [A], page 12.

I AM happy in being able to confirm this doctrine by the authority of Mr. Turgot and of Mr. Condorcet.

" Puiſque l'exiſtence des corps n'eſt pour nous " que la permanence d'etres dont les propriétés ré- " pondent à un certain ordre de nos ſenſations, il " en réſulte qu'elle n'a rien de plus certain que celle " d'autres etres qui ſe manifeſtent également par " leurs effets ſur nous ; & puiſque nos obſervations " ſur nos propres facultés, confirmées par celles que " nous faiſons ſur les etres penſants qui animent " auſſi des corps, ne nous montrent aucune analogie " entre l'etre qui ſent ou qui penſe & l'etre qui nous " offre le phénomene de l'étendue ou de l'impéné- " trabilité, il n'y a aucune raiſon de croire ces etres " de la même nature. Ainſi la ſpiritualité de l'ame " n'eſt pas une opinion qui ait beſoin de preuves, " mais le réſultat ſimple & natural d'une analyſe ex- " acte de nos idées, & de nos facultés."

Vie de M. TURGOT, *par M.* CONDORCET.

Des Cartes was the firſt philoſopher who ſtated, in a clear and ſatisfactory manner, the diſtinction between mind and matter, and who pointed out the proper plan for ſtudying the intellectual phenomena. It is chiefly in conſequence of his preciſe ideas with reſpect to this diſtinction, that we may remark, in all his metaphyſical writings, a perſpicuity which is not obſervable in thoſe of any of his predeceſſors.

Dr. *Reid* has remarked, that although *Des Cartes* infers the exiſtence of mind from the operations of which we are conſcious, yet he could not reconcile himſelf to the notion of an unknown ſubſtance, or ſubſtratum, to which theſe operations belonged. And it was on his account, he conjectures, that he made the eſſence of the ſoul to conſiſt in thought; as, for a ſimilar reaſon, he had made the eſſence of matter to conſiſt in extenſion. But I am afraid, that this ſuppoſition is not perfectly reconcileable with Des Cartes' writings; for he repeatedly ſpeaks, with the utmoſt confidence of the exiſtences of ſubſtances of which we have only a relative idea; and, even in attempting to ſhew that thought is the eſſential attribute of mind, and extenſion of matter, he conſiders them as nothing more than attributes or qualities belonging to theſe ſubſtances.

" Per ſubſtantiam nihil aliud intelligere poſſumus, " quam rem quæ ita exiſtat, ut nulla alia re indigeat " ad exiſtendum. Et quidem ſubſtantia quæ nulla " plane re indigeat, unica tantum poteſt intelligi, " nempe Deus. Alias vero omnes, non niſi ope con- " curſus Dei exiſtere poſſe percipimus. Atque ideo " nomen ſubſtantiæ non convenit Deo et illis *univo-* " *ce* ut dici ſolet in ſcholis: hoc eſt, nulla ejus no- " minis ſignificatio, poteſt diſtincte intelligi, quæ " Deo, et creaturis ſit communis.

" Poſſunt attem ſubſtantia corporea, et mens, ſi- " ve ſubſtantia cogitans, creata, ſub hoc communi- " conceptu intelligi; quod ſint res, quæ ſolo Dei " concurſu agent ad exeſtendum. Verumtamen non " poteſt ſubſtantia primum animadverti ex hoc ſolo, " quod ſit res exiſtens, quia hoc ſolum per ſe nos " non afficit: ſed facile ipſam agnoſcimus ex quoli- " bet ejus attributo, per communem illiam notio- " nem, quod nihili nulla ſunt attributa, nullævæ " proprietates aut qualitates. Ex hoc enim, quod " aliquod attributum adeſſe precipiamus, concludi- " mus aliquam rem exiſtentm, ſive ſubſtantiam cui " illud tribui poſſit, neceſſario etiam adeſſe.

" Et quidem ex quolibet attributo ſubſtantia cog-
" noſcitur; ſed una tamen eſt cujuſque ſubſtantiæ
" præcipua proprietas, quæ ipſius naturam eſſenti-
" amque conſtituit, et ad quam aliæ omnes referun-
" tur. Nempe extenſio in longum, latum et pro-
" fundum ſubſtantiæ corporæ naturam conſtituit;
" et cogitatio conſtituit naturam ſubſtantiæ cogit-
" tantis."—*Princip. Philoſoph.* pars i. cap. 51, 52, 53.

In ſtating the relative notions, which we have of mind and of body, I have avoided the uſe of the word *ſubſtance*, as I am unwilling to furniſh the ſlighteſt occaſion for controverſy; and have contented myſelf with defining *mind* to be *that* which feels, thinks, wills, hopes, fears, deſires, &c. That my conſciouſneſs of theſe and other operations is neceſſarily accompanied with a conviction of my own exiſtence, and with a conviction that all of them belong to one and the ſame being, is not an hypotheſis, but a fact; of which it is no more poſſible for me to doubt, than of the reality of my own ſenſations or volitions.

NOTE [B] page 67.

DOCTOR Reid remarks, that Des Cartes rejected a part only of the ancient theory of perception, and adopted the other part. " That theory," ſays he, " may be divided into two parts: the firſt, " that images, ſpecies, or forms of external objects, " come from the object, and enter by the avenues " of the ſenſes to the mind; the ſecond part is, that " the external object itſelf is not perceived, but on-" ly the ſpecies or image of it in the mind. The " firſt part, Des Cartes and his followers rejected " and refuted by ſolid arguments; but the ſecond " part, neither he nor his followers have thought " of calling in queſtion; being perſuaded that it is " only a repreſentative image in the mind of the " external object that we perceive, and not the ob-

" ject itself. And this image, which the peripatet-
" ics called a species, he calls an idea, changing the
" name only, while he admits the thing."

The account which this passage contains of Des Cartes' doctrine concerning perception, is, I believe, agreeable to his prevailing opinion, as it may be collected from the general tenor of his writings; and the observation with which it concludes is undoubtedly true, that neither he nor any of his followers ever called in question the existence of ideas, as the immediate objects of our perception. With respect however, to the first part of the ancient theory, as here stated, it may be proper to remark, that Des Cartes, although evidently by no means satisfied with it, sometimes expresses himself as if he rather doubted of it, than expressly denied it; and at other times, when pressed with objections to his own particular system, he admits, at least in part, the truth of it. The following passage is one of the most explicit I recollect, in opposition to the ancient doctrine.

" Observandum præterea, animam, nullis imagi-
" nibus ab objectis ad cerebrum missis egere ut sen-
" tiat, (contra quam communiter philosophi nostri
" statuunt) aut ad minimum, longe aliter illarum
" imaginum naturam concipiendam esse quam vul-
" go fit. Quam enim circa eas nil considerent, præ-
" ter similitudinem earum cum objectis quæ rep-
" præsentant, non possunt explicare, qua ratione ab
" objectis formari queant, et recipi ab organis sen-
" suum exteriorum, et demum nervis ad cerebrum
" transvehi. Nec alia causa imagines istas fingere
" eos impulit, nisi quod viderent mentem nostram
" efficaciter pictura excitari ad apprehendendum ob-
" jectum illud, quod exhibit: ex hoc enim judica-
" runt, illam eodem modo excitandam, ad appre-
" hendenda ea quæ sensus movent, per exiguas quas-
" dam imagines, in capite nostro delineatas. Sed
" nobis contra est advertendum, multa præter im-

" agines esse, quæ cogitationes excitant, ut exem-
" pli gratia, verba et signa, nullo modo similia iis
" quæ significant." *Dioptric.* cap. 4. § 6.

In his third meditation (which contains his celebrated argument for the existence of a Deity) the following passage occurs.

" Sed hic præcipue de iis est quærendum quas
" tanquam a rebus extra me existentibus desumptas
" considero, quænam me moveat ratio ut illas istis
" rebus similes esse existimem; nempe ita videor
" doctus a natura, et prætera experior illas non a
" mea voluntate nec proinde a me ipso pendere, sæ-
" pe enim vel invito observantur, ut jam, sive ve-
" lim sive nolim, sentio calorem, et idea puto sensum
" illum, sive ideam coloris a re a me diversa, nempe
" ab ignis, cui assideo, calore mihi advenire, nihil-
" que magis obvium est, quam ut judicem istam
" rem suam similitudinem potius, quam aliud quid
" in me immittere; quæ rationes an satis firmæ sint
" jam videbo. Cum hic dico me ita doctum esse a
" natura intelligo tantum spontaneo quodam impe-
" tu me ferri ad hoc credendum, non lumine ali-
" quo naturali mihi ostendi esse verum, quæ duo
" multum discrepant, nam quæcumque lumine nat-
" urali mihi ostenduntur, (ut quod ex eo quod du-
" bitem sequatur me esse, et similia) nullo modo du-
" bia esse possunt, quia nulla alia facultas esse potest,
" cui æque fidam ac lumini isti, quæque illa non
" vera possit docere; sed quantum ad impetus nat-
" urales, jam sæpe olim judicavi me ab illis in deter-
" iorem partem fuisse impulsum cum de bono eli-
" gendo ageretur, nec video cur iisdem in ulla alia
" re magis fidam. Deinde quamvis idæ illæ a vol-
" untate mea non pendeant, non ideo constat ipsas
" a rebus extra me positis necessario procedere; ut
" enim impetus illi, de quibus mox loquebar, quam-
" vis in me sint, a voluntate tamen mea diversi esse
" videntur, ita forte etiam aliqua alia est in me fa-
" cultas nondum mihi satis cognita istarum idearum

" effectrix, ut hactenus semper visum est illas, dum " somnio, absque ulla rerum externarum ope in me " formari; ac denique quamvis a rebus a me di- " versis procederent, non inde sequitur illas rebus " istis similes esse debere; quinimo in multis sæpe " magnum discrimen videor deprehendisse; sic, ex- " empli causa, duas diversas solis ideas apud me in- " venio, unam tanquam a sensibus haustam, et quæ " maxime inter illas quas adventitias existimo est " recensenda, per quam mihi valde parvus apparet; " aliam vero ex rationibus astronomiæ desumptam, " hoc est ex notionibus quibusdam mihi innatis eli- " citam vel quocumque alio modo a me factum, " per quam aliquoties major quam terra exhibetur; " utraque profecto similis eidem soli extra me ex- " istenti esse non potest, et ratio persuadet illam ei " maxime esse dissimilem, quæ quam proxime ab " ipso videtur emanâsse. Quæ omnia satis demon- " strant me non hactenus ex certo judicio, sed tan- " tum ex cæco aliquo impulsu credidisse res quasdam " a me diversas exister e, quæ ideas sive imagines su- " as per organa sensuum, vel quolibet alio pacto mi- " hi immittant."

Among other animadversions upon this meditation sent to Des Cartes by one of his correspondents it is objected;—" Videris vertere in dubium " non tantum utrum ideæ aliquæ procedant ex re- " bus externis, sed etiam utrum omnino sint exter- " næ res aliquæ." To which Des Cartes answers: " Notandum est, me non affirmâsse ideas rerum ma- " terialium ex mente deduci, ut non satis bona fide " hic fingis; expresse enim postea ostendi ipsas a " corporibus sæpe advenire, ac per hoc corporum " existentian probari."

Vide Objections in Meditationes Renati Des Car-. tes, cum ejusdem ad illas Responsionibus

NOTE [C] page 70.

IN consequence of the inferences which Mr. Hume

has deduced from this doctrine concerning cauſe and effect ſome later authors have been led to diſpute its truth; not perceiving that the fallacy of this part of Mr. Hume's ſyſtem does not conſiſt in his premiſes, but in the concluſion which he draws from them.

That the object of the phyſical inquirer is not to trace neceſſary connexions, or to aſcertain the efficient cauſes of phenomena, is a principles which has been frequently aſcribed to Mr. Hume as its author both by his followers and by his opponents; but it is, in fact, of a much earlier date, and has been maintained by many of the moſt enlightened, and the leaſt ſceptical of our modern philoſophers, nor do I know that it was ever ſuſpected to have a dangerous tendency, till the publication of Mr. Hume's writings. "If we except," (ſays Dr. Barrow) "the "mutual caſuality and dependence of the terms of "a mathematical demonſtration, I do not think "that there is any other caſuality in the nature of "things, wherein a neceſſary conſequence can be "founded. Logicians do indeed boaſt of I do not "know what kind of demonſtrations from external "cauſes either efficient or final, but without being "able to ſhew one genuine example of any ſuch; nay, "I imagine it is impoſſible for them ſo to do. For "there can be no ſuch connexion of an external ef-"ficient cauſe with its effect, (at leaſt none ſuch can "be underſtood by us) through which, ſtrictly ſpeak-"ing, the effect is neceſſarily ſuppoſed by the ſup-"poſition of the efficient cauſe, or any determinate "cauſe by the ſuppoſition of the effect." He adds afterwards, "Therefore there can be no argument-"ation from an efficient cauſe to the effect, or "from an effect to the cauſe which is lawfully ne-"ceſſary."

Mathematical Lectures read at Cambridge.

Dr. Butler too, in his diſcourſe on the ignorance of man, has remarked, that "it is in general no

" more than effects that the moſt knowing are ac-
" quainted with; for as to cauſes they are as en-
" tirely in the dark as the moſt ignorant." What
" are the laws," (he continues) " by which matter
" acts upon matter, but certain effects, which ſome,
" having obſerved to be frequently repeated, have
" reduced to general rules?" *Butler's Sermons.*

" The laws of attraction and repulſion," (ſays Dr. Berkeley) " are to be regarded as laws of mo-
" tion, and theſe only as rules or methods obſerved
" in the production of natural effects the efficient
" and final cauſes whereof are not of mechanical
" conſideration. Certainly if the explaining a phe-
" nomenon be to aſſign its proper efficient and final
" cauſe, it ſhould ſeem the mechanical philoſophers
" never explained any thing; their province being
" only to diſcover the laws of nature; that is, the
" general rules and methods of motion; and to ac-
" count for particular phenomena, by reducing
" them under, or ſhewing their conformity to ſuch
" general rules."

SIRIS: *or Philoſophical Inquiries concerning the Virtue of Tar Water*, p. 108.

" The words *attraction* and *repulſion* may, in com-
" pliance with cuſtom, be uſed where, accurately
" ſpeaking, motion alone is meant. *Ibid.* p. 114.

" Attraction cannot produce, and, in that ſenſe,
" account, for the phenomena; being itſelf one of
" the phenomena produced, and to be accounted
" for." *Ib.* p. 115.

" There is a certain analogy, conſtancy, and uni-
" formity in the phenomena or appearances of na-
" ture, which are a foundation for general rules:
" and theſe are a grammar for the underſtanding of
" nature, or that ſeries of effects in the viſible world
" whereby we are enabled to foreſee what will come
" to paſs in the natural courſe of things. Plotinus
" obſerves, in his third Ennead, that the art of pre-
" ſaging, is in ſome ſort the reading of natural let-

" ters denoting order, and that ſo far forth as ana-
" logy obtains in the univerſe, there may be vaticin-
" ation. And in reality, he that foretels the motions
" of the planets, or the effects of medicines, or the
" reſult of chemical or mechanical experiments, may
" be ſaid to do it by natural vaticination."

Ib. p. 120, 121.

" Inſtruments, occaſions, and ſigns, occur in, or
" rather make up, the whole viſible courſe of na-
" ture." *Ib.* p. 123.

The following very remarkable paſſage from Mr. Locke ſhews clearly, that this eminent philoſopher conſidered the connexion between impulſe and motion, as a *conjunction* which we learn from experience only, and not as a conſequence deducible from the conſideration of impulſe, by any reaſoning *a priori*. The paſſage is the more curious, that it is this particular application of Mr. Hume's doctrine, that has been generally ſuppoſed to furniſh the ſtrongeſt objection againſt it.

" Another idea we have of body, is the power of
" communicating motion by impulſe; and of our
" ſouls, the power of exciting motion by thought.
" Theſe ideas, the one of body, the other of our
" minds, every day's experience clearly furniſhes
" us with: but if here again we inquire how this
" is done, we are equally in the dark. For in the
" communication of motion by impulſe, wherein
" as much motion is loſt to one body, as is got to
" the other, which is the ordinarieſt caſe, we can
" have no other conception, but of the paſſing of
" motion out of one into another; which I think
" is as obſcure and inconceivable, as how our
" minds move or ſtop our bodies by thought, which
" we every moment find they do."

——" The communication of motion by thought
" which we aſcribe to ſpirit, is as evident as that of
" impulſe which we aſcribe to body. Conſtant
" experience makes us ſenſible of both of theſe,

"though our narrow underſtandings can compre-
"hend neither."

——"To conclude, ſenſation convinces us, that "there are ſolid extended ſubſtances; and reflec-
"tion, that there are thinking ones: experience aſ-
"ſures us of the exiſtence of ſuch beings; and that "the one hath a power to move body by impulſe,
"and the other by thought.——If we would in-
"quire farther into their nature, cauſes, and man-
"ner, we perceive not the nature of extenſion "clearer than we do of thinking. If we would "explain them any farther, one is as eaſy as the "other; and there is no more difficulty to con-
"ceive, how a ſubſtance we know not, ſhould by "thought ſet body into motion, than how a ſub-
"ſtance we know not, ſhould by impulſe ſet body "into motion."

LOCKE, book ii. chap. 23. § 28, 29.

It is not indeed very eaſy to reconcile the foregoing obſervations, which are, in every reſpect, worthy of the ſagacity of this excellent philoſopher, with the paſſage quoted from him in page 78 of this work.

Some of Mr. Hume's reaſonings concerning the nature of the connexions among phyſical events, coincide perfectly with thoſe of Malebranche on the ſame ſubject; but they were employed by this laſt writer to ſupport a very different concluſion.

At a ſtill earlier period, Hobbes expreſſed himſelf with reſpect to phyſical connexions, in terms ſo nearly approaching to Mr. Hume's, that it is difficult to ſuppoſe that they did not ſuggeſt to him the language which he has employed on that ſubject. "What we call experience," (he remarks,) is no-
"thing elſe but remembrance of what antecedents "have been followed by what conſequents."—
"No man," (he continues,) can have in his mind "a conception of the future; for the future is not "yet; but of our conceptions of the paſt we make

" a future, or rather call paſt, future relatively. " Thus after a man hath been accuſtomed to ſee like " antecedents followed by like conſequents, when- " ſoever he ſeeth the like come to paſs to any thing " he had ſeen before, he looks there ſhould follow " it the ſame that followed then.—When a man " hath ſo often obſerved like antecedents to be fol- " lowed by like conſequents, that whenſoever he " ſeeth the antecedent, he looketh again for the con- " ſequent, or when he ſeeth the conſequent, mak- " eth account there hath been the like antecedent, " then he calleth both the antecedent and the con- " ſequent ſigns of one another." HOBBES' *Tripos.*

I am doubtful whether I ſhould not add to theſe authorities, that of Lord Bacon, who, although he has no where formally ſtated the doctrine now under conſideration, has plainly taken it for granted in all his reaſonings on the method of proſecuting philoſophical inquiries; for if we could perceive in any inſtance the manner in which a cauſe produces its effect, we ſhould be able to deduce the effect from its cauſe by reaſoning *a priori*; the impoſſibility of which he every where ſtrongly inculcates. " Homo naturæ miniſter et interpres tantum facit " et intelligit quantum de naturæ ordine re vel me- " nte obſervaverit; nec amplius ſcit aut poteſt." I acknowledge, at the ſame time, that, from the general ſcope of lord Bacon's writings, as well as from ſome particular expreſſions in them with regard to cauſes, I am inclined to believe that his metaphyſical notions on the ſubject were not very accurate, and that he was led to perceive the neceſſity of recurring to obſervation and experiment in natural philoſophy, not from a ſpeculative conſideration of our ignorance concerning neceſſary connexions, but from a conviction, founded on a review of the hiſtory of ſcience, of the inſufficiency of thoſe methods of inquiry which his predeceſſors had purſued. The notion which the ancients had

formed of the object of philoſophy, (which they conceived to be the inveſtigation of efficient cauſes,) was the principal circumſtance which miſled them in their reſearches: and the erroneous opinions of Des Cartes on the ſame ſubject, fruſtrated all the efforts of his great and inventive genius, in the ſtudy of phyſics. "Perſpicuum eſt," (ſays he, in one paſſage,) "optiman philoſophandi viam nos ſequuturos, ſi ex ipſius Dei cognitioni rerum ab eo creatarum cognitionem deducere conemur, ut ita ſcientiam perfectiſſimam quæ eſt effectuum per cauſas acquiramus*."

The ſtrong prejudice which has been entertained of late againſt Mr. Hume's doctrine concerning the connexion among phyſical events, in conſequence of the dangerous concluſions to which it has erroneouſly been ſuppoſed to lead, will, I hope, be a ſufficient apology for multiplying ſo many authorities in ſupport of it.

NOTE [D], page 73.

THIS language has even been adopted by philoſophers, and by atheiſts as well as theiſts. The latter have repreſented natural events as part of a great chain, the higheſt link of which is ſupported by the Deity. The former have pretended, that there is no abſurdity in ſuppoſing the number of links to be infinite. Mr. Hume had the merit of ſhewing clearly to philoſophers, that our common language with reſpect to cauſe and effect, is merely analogical; and that if there be any links among phyſical events, they muſt forever remain inviſible to us. If this part of his ſyſtem be admitted; and if at the ſame time, we admit the authority of that principle of the mind, which leads us to refer eve-

* There is, I believe, reaſon to doubt if Des Cartes had ever read the works of Bacon.

ry change to an efficient cauſe ; Mr. Hume's doctrine ſeems to be more favourable to theiſm, than even the common notions upon this ſubject ; as it keeps the Deity always in view, not only as the firſt but as the conſtantly operating efficient cauſe in nature, (either immediately, or by means of ſome intelligent inſtruments,) and as the great connecting principle among all the various phenomena which we obſerve. This, accordingly, was the concluſion which Malebranche deduced from premiſes very nearly the ſame with Mr. Hume's.

NOTE [E], page 111.

MR. LOCKE, in his Eſſay on Human Underſtanding, has taken notice of the quickneſs with which the operations of the mind are carried on, and has referred to the acquired perceptions of ſight, as a proof of it. The ſame Author has been ſtruck with the connection between this claſs of facts and our habitual actions ; but he does not ſtate the queſtion, whether ſuch actions are voluntary or not. I think it probable, from his mode of expreſſion, that his opinion on the ſubject was the ſame with mine, The following quotation contains all the remarks I recollect in his writings, that have any connexion with the doctrines of the preſent chapter :

" We are farther to conſider, concerning per-
" ception, that the ideas we receive by ſenſation are
" often, in grown people, altered by the judgment,
" without our taking notice of it. When we ſet
" before our eyes a round globe, of any uniform
" colour, *e.* g. gold, alabaſtar, or jet, it is certain
" that the idea thereby imprinted in our mind is
" of a flat circle, variouſly ſhadowed, with ſeveral
" degrees of light and brightneſs coming to our
" eyes. But we have by uſe been accuſtomed to
" perceive what kind of appearance convex bodies
" are wont to make in use and what alterations are

" made in the reflections of light by the difference " of the ſenſible figure of bodies ; the judgment " preſently, by a habitual cuſtom, alters the appear- " ances into their cauſes ; ſo that, from that which " truly is variety of ſhadow or colour, collecting " the figure, it makes it paſs for a mark of figure, " and frames to itſelf the perception of a convex " figure, and an uniform colour ; when the idea " we receive from thence is only a plane variouſly " coloured ; as is evident in painting."

Chap. ix. § 8.

" But this is not, I think, uſually in any of our " ideas but thoſe received by ſight ; becauſe ſight, " the moſt comprehenſive of all our ſenſes, convey- " ing to our minds the ideas of light and colours, " which are peculiar only to that ſenſe, and alſo the " far different ideas of ſpace, figure, and motion, " the ſeveral varieties whereof change the appear- " ances of its proper object, viz. light and colours, " we bring ourſelves by uſe to judge of the one by " the other. This, in many caſes, by a ſettled habit, " in things whereof we have frequent experience, " is performed ſo conſtantly, and ſo quick, that we " take that for the perception of our ſenſation, " which is an idea formed by our judgment, ſo " that one, viz. that of ſenſation, ſerves only to ex- " cite the other, and is ſcarce taken any notice of " itſelf ; as a man who reads or hears with atten- " tion and underſtanding, takes little notice of the " characters or ſounds, but of the ideas that are ex- " cited in him by them.

" Nor need we wonder that this is done with ſo " little notice, if we conſider how very quick the " actions of the mind are performed ; for as itſelf " is thought to take up no ſpace, to have no exten- " ſion, ſo its actions ſeem to require no time, but " many of them ſeem to be crowded into an inſtant. " I ſpeak this in compariſon to the actions of the " body. Any one may eaſily obſerve this in his " own thoughts, who will take the pains to reflect

" on them. How, as it were in an inſtant, do our " minds, with one glance, ſee all parts of a demon- " ſtration, which may very well be called a long " one, if we conſider the time it will require to put " it into words, and ſtep by ſtep ſhew it to another. " Secondly, we ſhall not be much ſurpriſed that " this is done in us with ſo little notice, if we con- " ſider how the facility which we get of doing " things by a cuſtom of doing, makes them often " paſs in us without our notice. Habits eſpecially " ſuch as are begun very early, come at laſt to pro- " duce actions in us, which often eſcape our obſer- " vation. How frequently do we in a day cover " our eyes with our eye-lids, without perceiving " that we are at all in the dark? Men that by cuſ- " tom have got the uſe of a bye-word, do almoſt " in every ſentence pronounce ſounds, which, " though taken notice of by others, they them- " ſelves neither hear nor obſerve; and, therefore, " it is not ſo ſtrange that our mind ſhould often " change the idea of its ſenſation into that of its " judgment, and make one ſerve only to excite the " other, without our taking notice of it."

Ibid. § 9, 10.

The habit mentioned by Locke, in this paragraph of occaſionally winking with the eye-lids, (which is not accompanied with any memory of our being, in every ſuch inſtance, in a momentary ſtate of total darkneſs,) deſerves to be added to the caſes already mentioned, to ſhew the dependence of memory upon attention.

NOTE [F], page 151.

" ——PLATONI quid idea ſit, peculiari tracta " tione prolixe excuſſimus*, quæ conſuli ab iis de-

* Brucker here alludes to his work, entitled, *Hiſtoria Philoſophica de Ideis*; which I have never had an opportunity of ſeeing.

"bet, qui accurate totam rei seriem pernoscere cu-
"piunt. Nos pro præsentis instituti modo paucis
"notamus. Platoni ideam non esse illam, quæ ex
"contemplatione objectorum singularium exsurgit
"notionem universalem reique alicujus generalem
"conceptum, quem recentiores ideam vocant, ille
"εἶδη vocavit et ab idea distinxit. Sed ideæ sunt illi
"essentialia rerum omnium singularium exemplaria,
"αὐτοθύτικα gaudentia, ad quorum naturam indolemque
"res singulares formatæ sunt, et quæ illis veram
"certamque atque stabilem essentiam largiuntur.
"Has ideas ex divina mente oriri, inque ea radicari,
"sua autem propria substantia gaudere, et esse αὐτως
"καὶ ὀντως ὄντα statuit, et circa earum cognitionem
"versari intellectum humanum, in his rerum essentiis
"separatim et extra materiam existentibus cogno-
"scendis cardinem verti totiua philosophiæ asseruit.
"Ridiculum id visum Aristoteli dari extra materi-
"am ejusmodi essentias universales, quibus res om-
"nes singulares essentialiter modificarentur, rato,
"esse hæc περιττὰ ματα et nugas otiosi ingenii, Plato-
"nemque sine causa rationeque sufficienti hæc som-
"nia ex scholis Pythagoreorum, quæ istis entibus
"personabant, recipisse, suoque intulisse systemati.
"Cum autem negare non audiret, esse in rebus for-
"mas essentiales, has ideas, sive formas, qua voce
"Platonicum nomen exprimere maluit, materiæ
"ab æterno esse impressas, et in eo latere affirmavit
"et ita demum ex rationibus istis formisque semina-
"libus, materiam esse formatam statuit."

BRUCK. *Hist Phil.* iii. p. 905.

NOTE [G], page 152.

THE Stoics, who borrowed many of their doctrines from the other schools of philosophy, seem, in particular, to have derived their notions on this subject from some of their predecessors. Stilpo, who was of the Megaric sect, is said to have held

opinions approaching nearly to thoſe of the nominaliſts.

" Stilpo univerſalia plane ſuſtulit. Dicebat enim: " qui hominem dicat eum neminem dicere, quod " non hunc vel illum ea vox ſignificet, nec huic " magis, quam alteri conveniat.——Scilicet ſuppo- " nebat Stilpo, non dari hominem in abſtracto, ad- " eoque has ſpecies et genera rerum non natura ex- " iſtere; cum neque in hoc neque in alio homine, " ille homo univerſalis queat oſtendi. Inductione " itaque facta, cum neque hunc, neque illum, neque " alium hominum eſſe colligeret, inferebat nullum " eſſe hominem, ſicque ludendo ambigua hominis " in genera ſive abſtracto, uti logici dicunt, & in " individuo ſive ſingulari conſiderati notione, incau- " tos exagitabat. Altiora tamen hic latere putat P. " Bayle, et non in ſolo verborum luſu ſubſtitiſſe " Stilponem, ſed univerſalia ſive prædicabilia nega- " viſſe.——Neque prorſus eſt diſſimile, fuiſſe Stil- " ponem inter eos, qui univerſalia præter nuda no- " mina nihil eſſe dicerent, quod et cynicos feciſſe et " alios, alibi docuimus: quorum partes poſtea ſuſ- ceperunt Abælardi ſequaces et tota nominalium " ſecta." BRUCKER, vol. i. p. 619.

NOTE [H], page 154.

" SECULO XI. Roſcellinus vel Rucellinus, fa- " cerdos et philoſophus Compendienſis, ab Ariſtot- " ele ſeceſſum fecit, et in ſtoicorum caſtra ita tran- " ſiit, ut ſtatueret, univerſalia, nec ante rem, nec " in re exiſtere, necullam habere realem exiſtentiam " ſed eſſe nuda nomina et voces, quibus rerum ſin- " gularium genera denotentur."

BRUCKER, *Hiſt. Phil.* vol. iii. p. 906.

" Dum Porphyrius prudentur queſtionem; an " univreſalia revera exiſtant, omittendam eſſe cen- " ſet de quâ inter Platonicos et Stoicos mire decer- " tari noverat, occaſionem ſuppeditavit otioſo Roſ-

" celini ingenio, eam novo acumine ingenii aggre-
" diendi definiendique." *Ibid.* vol. iii. p. 674.

Roscelinus was a native of Brittany, and canon of Compiegne. He is much celebrated, even by his adversaries, for the acuteness and subtilty of his genius, which he displayed both in scholastical and theological controversy. He was condemned for tritheism by a council assembled at Soisson in the year 1092. (*See* MOSHEIM's *Ecclesiastical History.*) It does not appear that he ever taught in Paris, or that he gave public lectures; but he had the honor to direct the studies, and to form the philosophical opinions of Abelard, by whose means the innovations he had introduced into Dialectics obtained a very wide and rapid circulation. (BRUCKER, vol. iii. p. 728.) He is mentioned as an Englishman by Mallet, in his life of Bacon, and by other writers; a mistake into which they have fallen, by confounding Britain with Bretagne. Very little is known of the particulars of his life. " Primum nominalium
" aiunt fuisse," says Leibnitz; " *nescio quem* Ruscel-
" inum Britonem." *See his Dissertation de Stylo Philosophico Marii Nizolii.*

The opinion of Abelard concerning universals, is said to have differed, in some respects, from that of his master. " Alius consistit in vocibus," says John of Salisbury, who was a scholar of Abelard, " licet
" hæc opinio cum Roscelino suo fere omnino jam
" evanuerit: alius sermones intuetur, et ad illos,
" detorquet, quicquid alicubi de universalibus me-
" minit scriptum. In hæc autem opinione depre-
" hensus est Peripateticus Abelardus noster."
Metalog. lib. ii. c. 17.

Of this difference between the doctrines of Roscelinus and Abelard I find myself perfectly unable to give any account; and I am glad to find that Morhoff acknowledges his ignorance upon the same subject. " Alii fuerunt, qui universalia quæsiver-
" unt, non tam in vocibus quam in sermonibus in-

" tegris; quod Joh. Sariſberienſis adſcribit Petro " Abelardo; quo quid intelligat ille, mihi non ſa- " tis liquet." *Polybiſt.* tom. ii. lib. i. cap. 13. § 2.

Abſurd as theſe controverſies may now appear, ſuch was the prevailing taſte of the twelfth century, that they ſeduced the young and aſpiring mind of Abelard from all the other purſuits which Europe then preſented to his ambition. " Ut militaris gloriæ pompam," ſays he, " cum hæreditate et " prærogativa primogenitorum meorum fratribus " dereliquens, Martis curiæ penitus abdicarem, ut " Minervæ gremio educarer."

Hiſt. Calam. Suar. c. 1.

Among the literary men of this period, none ſeems to have riſen to ſuch an eminent ſuperiority above his age, in the liberality of his philoſophical views, as John of Saliſbury, the celebrated friend of archbiſhop Becket. In his youth he had ſtudied at Paris, under Abelard and other eminent maſters, and had applied himſelf, with diſtinguiſhed ardour and ſucceſs, to the ſubtile ſpeculations which then occupied the ſchools. After a long abſence, when his mind was enlarged by more liberal and uſeful purſuits and by an extenſive intercourſe with the world, he has the curioſity to reviſit the ſcene of his early ſtudies, and to compare his own acquiſitions with thoſe of his old companions. The account which he gives of this viſit is ſtrikingly characteriſtical, both of the writer and of his age: " In- " venti ſunt, qui fuerant, et ubi: neque enim ad " palmam viſi ſunt proceſſiſſe ad quæſtiones priſti- " nas dirimendas, neque propoſitiunculam unam " adjecerant.——————Expertus itaque " ſum, quod liquido colligi poteſt, quia ſicut dialec- " tica alias expedit diſciplimas, ſic, ſi ſola fuerit, ja- " cet et ſanguis et ſterilis, &c."

Metalog. lib. ii. cap. 10.

The ſame author, ſpeaking of the controverſy between the Nominaliſts and the Realiſts, thus ex-

preſſes himſelf: " Quæſtionem de generibus et ſpe-
" ciebus in qua laborans mundus jam ſenuit, in qua
" plus temporis conſumptum eſt quam in acquiren-
" do et regendo orbis imperio conſumſerit Cæſarea
" domus: plus effuſum pecuniæ, quam in omnibus
" divitiis ſuis poſſederit Crœſus. Hæc enim tam-
" diu multos tenuit, ut cum hoc unum tota vita
" quærerent, tandem nec iſtud, nec aliud inveni-
rent." *De Nugis Curialium*, lib. vii. cap. 12.

NOTE [I] page 169.

" ——SECTA nominalium, omnium inter ſco-
" laſticas profundiſſima, et hodiernæ reformatæ phi-
" loſophandi rationi congruentiſſima; quæ quum
" olim maximè floreret, nunc apud ſcholaſticos qui-
" dem, extincta eſt. Unde conjicias decrementa
" potius quàm augmenta acuminis. Quum autem
" ipſe Nizolius noſter ſe Nominalem exſertè profit-
" eri non dubitet prope finem capitis ſexti, libri pri-
" mi; et verò in realitate formalitatum et univer-
" ſalium evertenda nervus diſputationis ejus omnis
" potiſſimum contineatur, pauca quædam de Nom-
" alibus ſubjicere operæ pretium duxi. Nominales
" ſunt, qui omnia putant eſſe nuda nomina præter
" ſubſtantias ſingulares, abſtractorum igitur et uni-
" verſalium realitatem prorſus tollunt. Primum
" autem nominalium aiunt fuiſſe neſcio quem Ru-
" celinum Britonem, cujus occaſione cruenta cer-
" tamina in academia Pariſienſi fuerunt excitata.
" Diu autem jacuit in tenebris ſect nominalium,
" donec maximi vir ingenii, et eruditionis pro illo
" ævo ſummæ, Wilhemus Occam Anglus, Scoti
" diſcipulus, ſed mox oppugnator maximus, de im-
" proviſo eam reſuſcitavit; conſenſere Gregorius A-
" riminenſis, Gabr. Biel, et plerique ordinis Auguſt-
" inianorum, unde et in Martini Lutheri ſcriptis
" prioribus amor nominalium ſatis elucet, donec
" procedente tempore erga omnes monachos æqua-
" liter affectus eſſe cœpit. Generalis autem regula
" eſt, qua nominales paſſim utuntur; entia non eſſe

" multiplicanda præter neceſſitatem. Hæc regula " ab aliis paſſim oppugnatur, quaſi injuria in divi- " nam ubertatem, liberalem potius quam parcam, " et varietate ac copia rerum gaudentem. Sed, qui " ſic objiciunt, non ſatis mihi nominalium mentem " ce piſſe videntur, quæ, etſi obſcurius propoſita " huc redit: hypotheſin eo eſſe meliorem, quo ſim- " pliciorem, et in cauſis eorum quæ apparent red- " dendis eum optime ſe gerere, qui quam pauciſſi- " ma gratis ſupponat. Nam qui aliter agit, eo ip- " ſo naturam, aut potius autorem ejus Deum inep- " tæ ſuperfluitatis accuſat. Si quis aſtronomus ra- " tionem phenomenorum cœleſtium reddere poteſt " paucis ſuppoſitis, meris nimirum motibus ſimpli- " cibus circularibus, ejus certé hypotheſis ejus hy- " potheſi preferenda erit, qui multis orbibus varie " implexis ad explicanda cœleſtia indiget. Ex hac " jam regula nominales deduxerunt, omnia in re- " rum natura explicari poſſe, etſi univerſalibus et " formalitatibus realibus prorſus careatur. qua ſen- " tentia nihil verius, nihil noſtri temporis philoſo- " pho dignius, uſque adeo, ut credam ipſum Occa- " mum non fuiſſe nominaliorem, quam nunc eſt " Thomas Hobbes, qui, ut verum fatear, mihi, pluſ- " quam nominalis videtur. Non contentus enim " cum nominalibus univerſalia ad nomina reducere, " ipſam rerum veriatatem ait it nominibus conſiſt- " tere,ac,quod majus eſt,pendere ab arbitrio humano " quia veritas pendeat a definitionibus terminorum, " definitiones autem terminorum ab arbitrio huma- " no. Hæc eſt ſententia viri inter profundiſſimos, " ſeculi cenſendi, qua, ut dixi, nihil poteſt eſſe nom- " inalius."

This paſſage from Leibnitz has given riſe to a criticiſm of Morhoff, which appears to me to be extremely ill-founded. " Accenſet nominalibus," (ſays he) " Leibnitzius Thomam Hobbeſium, quem ille " ipſo Occamo nominaliorem, et pluſquam nomina- " lem vocat, qui non contentus cum nominalibus " univerſalia ad nomina reducere, ipſam rerum ve-

" itatem ait in nominibus consistere, ac, quod majus
" est, pendere ab arbitrio humano. Quæ bella ejus
" sententia, quamquam laudat eam Leibnitzius,
" monstri aliquid alit, ac plane nequam est. Im-
" mania enim ex uno summo paradoxo fluunt ab-
" surda." MORHOF. *Polyhistor.* vol. ii. page 81.

I shall not at present enter into a particular examination of the doctrine here ascribed to Hobbes, which I shall have occasion to consider afterwards under the article of Reasoning. I cannot, however, help remarking, that nothing but extreme inattention to the writings of Leibnitz, could have led Morhoff to suppose, that he had given his sanction to such an opinion. In the very passage which has now been quoted, the expression (" qui ut verum
" fatear, mihi plus quam nominalis videtur") plainly implies a censure of Hobbes's philosophy; and in another dissertation, entitled, *Meditationes de Cognitione, Veritate, et Ideis*, he is at pains directly to refute this part of his system;—" Atque in habemus quo-
" que discrimen inter definitiones nominales, quæ
" notas tantum rei ab aliis discernendæ continent,
" et reales, ex quibus constat rem esse possibilem, et
" hæc ratione satisfit Hobbio qui veritates volebat
" esse arbitrarias, qui ex definitionibus nominalibus
" penderent, non considerans realitatem definition-
" is in arbitrio non esse, nec quaslibet notiones in-
" ter se posse conjungi. Nec definitiones nomina-
" ales sufficiunt ad perfectam scientiam, nisi quan-
" do aliunde constat rem definitam esse possibilem,
" &c. &c." LEIBNITZII *Opera, Edit. Dutens.* tom. ii. p. 16, 17.

NOTE [K], page 174.

" TO form a clear notion of truth, it is very ne-
" cessary to consider truth of thought and truth of
" words, distinct one from another, but yet it is
" very difficult to treat of them asunder, because
" it is unavoidable, in treating of mental proposi-
" tions, to make use of words, and then the instan-

" ces given of mental propoſitions ceaſe immediate-
" ly to be barely mental, and become verbal. For
" a mental propoſition being nothing but a bare
" conſideration of the ideas, as they are in our
" minds ſtripped of names, they loſe the nature of
" purely mental propoſitions, as ſoon as they are
" put into words.

" And that which makes it yet harder to treat
" of mental and verbal propoſitions ſeparately, is
" that moſt men, if not all, in their thinking and
" reaſoning within themſelves, make uſe of words
" inſtead of ideas, at leaſt when the ſubject of their
" meditation contains in it complex ideas."

LOCKE, book iv. c. 5. § 3, 4.

" ——— But to return to the conſideration of
" truth. We muſt, I ſay, obſerve two ſorts of pro-
" poſitions, that we are capable of making.

" Firſt, mental, wherein the ideas in our under-
" ſtandings are without the uſe of words put toge-
" ther or ſeparated by the mind, perceiving or judg-
" ing of their agreement or diſagreement.

" Secondly, verbal propoſitions, which are words
" the ſigns of our ideas put together or ſeparated
" in affirmative or negative ſentences, &c. Ib. § 5.

" Though the examining and judging of ideas
" by themſelves, their names being quite laid aſide,
" be the beſt and ſureſt way to clear and diſtinct
" knowledge; yet through the prevailing cuſtom
" of uſing ſounds for ideas, I think it is very ſeldom
" practiſed. Every one may obſerve, how com-
" mon it is for names to be made uſe of inſtead of
" the ideas themſelves, even when men think and
" reaſon within their own breaſts: eſpecially if the
" ideas be very complex, and made up of a great
" collection of ſimple ones. This makes the con-
" ſideration of words and propoſitions ſo neceſſary
" a part of the treatiſe of knowledge, that it is very
" hard to ſpeak intelligibly of the one, without ex-
" plaining the other.

" All the knowledge we have, being only of par-

" ticular or of general truths, it is evident that " whatever may be done in the former of theſe, the " latter can never be well made known, and is very " ſeldom apprehended, but as conceived and expreſ- " ſed in words." Book iv. c. 6. § 1, 2.

From theſe paſſages it appears, that Locke conceived the uſe which we make of words in carrying on our reaſonings, both with reſpect to particular and to general truths, to be chiefly the effect of cuſtom; and that the employment of language, however convenient, is not eſſential to our intellectual operations. His opinion, therefore, did not coincide with that which I have aſcribed to the Nominaliſts.

On the other hand, the following paſſage ſhews clearly, how widely his opinion differed from that of the realiſts; and indeed it would have led us to believe that it was the ſame with Berkeley's, had not the foregoing quotations contained an explicit declaration of the contrary.

" To return to general words, it is plain, by what " has been ſaid, that general and univerſal belong " not to the real exiſtence of things, but are the in- " ventions and creatures of the underſtanding, made " by it for its own uſe, and concern only ſigns, " whether words or ideas. Words are general, as " has been ſaid, when uſed for ſigns of general ide- " as, and ſo are applicable indifferently to many " particular things; and ideas are general, when " they are ſet up as the repreſentatives of many " particular things: but univerſality belongs not to " things themſelves, which are all of them particu- " lar in their exiſtence; even thoſe words and ideas " which in their ſignification are general. When, " therefore, we quit particulars, the generals that " reſt are only creatures of our own making; their " general nature being nothing but the capacity " they are put into by the underſtanding of ſignify- " ing or repreſenting many particulars. For the " ſignification they have, is nothing but a relation " that, by the mind of man, is added to them."

Book iii. c. 3. § 11.

On the whole, it is evident, that Mr. Locke was neither completely satisfied with the doctrine of the Nominalists, nor with that of the Realists; and therefore I think it is with good reason, that Dr. Reid has classed him with the Conceptualists. Indeed, Mr. Locke has put this matter beyond all doubt himself; for, in explaining the manner in which we conceive universals, he has stated his opinion in the strongest and most paradoxical and most contradictory terms. The ridicule bestowed on this part of his philosophy by the author of Martinus Scriblerus, although censured for unfairness by Dr. Warburton, is almost justified by some of his expressions.

NOTE [L], page 182.

IN a letter from Leibnitz to a Scotch gentlemen (Mr. Burnet of Kemney) dated in the year 1697, there is the following passage:

"J'ay consideré avec attention le grand ouvrage "du charactere réel, et langage philosophique de "Monsieur Wilkins. Je trouve qu'il y a mis une in- "finité de belles choses, et nous n'avons jamais eu "une table des predicamens plus accomplie. Mais "l'application pur les characteres, et pour la langue, "n'est point conforme à ce qu'on pouvoit et devoit "faire. J'avois consideré cette matiere avant le li- "vre de Monsieur Wilkins, quand j'etos un jeune "homme de dix neuf ans, dans mon petit livre *de* "*artes conbinatoria*, et mon opinion est que ces char- "acteres veritablement réels & philosophiques doi- "vent repondre a l'analyse des pensées. Il est vray "que ces characteres presuppose nt la veritable phi- "losophe, et ce n'est que presentement que j'oserois "entrependre de les fabriquer. Les objections de "M. Dalgarus, et de M. Wilkins, contre le methode "veritablement philosophique ne sont que pour ex- "cuser l'imperfection de leurs essais, et marquent "seulement les difficultes qui les en ont rebutes."

The letter of which this is a part was published at the end of *A Defence of* Dr. Clarke, (which I be-

lieve is commonly aſcribed to Dr. Gregory Sharpe) and which was printed at London in 1744. The perſon mentioned by Leibnitz under the name of *M. Dalgarus*, was evidently *George Dalgarno*, a native of Aberdeen, and author of a ſmall and very rare book, entitled, " *Ars Signorum, vulgò character* " *univerſalis et lingua philoſophica, qua poterunt, homi-* " *nes diverſiſſimorum idiomatum, ſpatio duarum ſeptima-* " *narum, omnia animi ſui ſenſa, (in rebus familiaribas)* " *non minus intelligibiliter, ſive ſcribendo, ſive loquendo,* " *mutuo communicare, quam linguis propriis vernaculis.* " *Præterea, hinc etiam poterunt juvenes, philoſophiæ prin-* " *cipia, et veram logicæ praxin, citius et facilius multo im-* " *bibere, quam ex vulgaribus philoſophorum ſcriptis.*"

It is very remarkable that this work of Dalgarno is never, (at leaſt ſo far as I recollect) mentioned by Wilkins; although it appears from a letter of Charles I. prefixed to Dalgarno's book, that Wilkins was one of the perſons who had recommended him to the royal favour.

The treatiſe *de Arte Combinatoria* is publiſhed in the ſecond volume of Duten's edition of Leibnitz's works, but it does not appear to me to throw much light on his views with reſpect to a philoſophical language.

I muſt requeſt the indulgence of the reader for adding to the length of this note, by quoting a paſſage from another performance of Leibnitz; in which he has fallen into a train of thought remarkably ſimilar to that of Mr. Hume and Dr. Campbell in the paſſages already quoted from them in this ſection. The performance is entitled, *Meditationes de Cognitione. Veritate, & Ideis*, and is printed in the ſecond volume of Duten's edition.

" Plerumque autem, præſertim in analyſi longio-
" re, non totam ſimul naturam rei intuemur, ſed
" rerum loco ſignis utimur, quorum explicationem
" in præſenti aliqua cogitatione compendii cauſa ſo-
" lemus prætermittere, ſcientes, aut credentes nos
" eam habere, in proteſtate; ita cum chiliogonum,

" ſeu polygonum mille æqualium laterum cogito, " non ſemper naturam lateris, et æqualitatis, et " millenarii (ſeu cubi a denario) conſidero, ſed vo- " cabulis iſtis (quorum ſenſus obſcure ſaltem, atque " imperfect menti obſervantur) in animo utor loco " idearum, quas de iis habeo, quoniam memini me " ſignificationem iſtorum vocabulorum habere, ex- " plicationem autem nunc judico neceſſariam non " eſſe; qualem cogitationem cæcam, vel etiam ſym- " bolicam appellare ſoleo, qua et in algebra, et in " arithmetica utimur, imo fere ubique. Et certe " cum notio valde compoſita eſt, non poſſumus om- " nes ingredientes eam notiones ſimul cogitare: " ubi tamen hoc licet, vel ſaltem in quantum licet, " cognitionem voco intuitivam. Notionis diſtinctæ " primitivæ non alia datur cognitio, quam intuitiva " ut compoſitarum plerumque cogitatio non niſi " ſimbolica eſt.

" Ex his jam patet, nos eorum quoque, quæ diſ- " tincte cognoſcimus, ideas non percipere, niſi qua- " tenus cogitatione intuitiva utimur. Et ſane con- " tingit, ut nos ſæpe falſo credamus habere in ani- " mo ideas rerum, cum falſo ſupponimus aliquos " terminos, quibus utimur, jam a nobis fuiſſe expli- " catos: nec verum aut certe ambigutitati obnoxi- " um eſt, quod aiunt aliqui, non poſſe nos de re ali- " qua dicere, intelligendo quod dicimus, quin ejus " habeamus ideam. Sæpe enim vocabula iſta ſin- " gula utcunque intelligimus, aut nos antea intel- " lexiſſe meminimus, qua tamen hac cogitatione " cæca contenti ſumus, et reſolutionem notionem " non ſatis proſequimur, fit ut lateat nos contradic- " tio, quam forte notio compoſita involvit."

NOTE [M] page 199.

AS the paſſage quoted in the text is taken from a work which is but little known in this country, I ſhall ſubjoin the original.

" Qu'il me ſoit permis de préſenter á ceux qui

" refuſent de croire a ces perfectionnemens ſucceſ-
" ſifs de l'eſpece humaine un exemple pris dans les
" ſciences ou la marche de la verite eſt la plus sure,
" ou elle peut etre meſuree avec plus de preciſion.
" Ces verites elementaires de geomentrie et d'aſtron-
" omie qui avoient ete dans l'Inde et dans l'Egypte
" une doctrine occulte, ſur laquelle des pretres am-
" bitieux avoient fonde leur empire, etoient dans la
" Grece, au tempts d'Archimede ou d'Hipparque,
" des connoiſſances vulgaires enſeignees dans les
" ecoles communes. Dans le ſiecle dernier, il ſuf-
" ſiſoit de quelques annees d'etude pour ſavoir tout
" ce qu' Archimede et Hipparque avoient pu con-
" noitre ; et aujourd'hui deux annees de l'enſeigne-
" ment d'un profeſſeur vont u dela de ce que ſa-
" voient Leibnitz ou Newton. Qu'on medite cet
" exemple, qu'on ſaiſiſſe cette chaine qui s'etend
" d'un pretre de Memphis a Euler, et remplit la diſ-
" tance immenſe qui les ſepare ; qu'on obſerve a
" chaque epoque le genie devançant le ſiecle pre-
" ſent, et la mediocrite attaignant a ce qu'il avoit
" decouvert dans celui qui precedoit, on apprenda
" que la nature nous a donne les moyens d'eparg-
" ner le temps et de menager l'attention, et qu'il
" n'exiſte aucune raiſon de croire que ces moyens
" puiſſent avoir un terme. On verra qu'au mo-
" ment ou une multitude de ſolutions particulieres,
" de faits iſoles commencent a epuiſer l'attention, a
" fatiguer la memoire, ces theories diſperſees vien-
" nent ſe perdre dans une methode generale, tous
" les faits ſe reunir dans un fait unique, et que ces
" generaliſations, ces reunions repetees n'ont com-
" me les multiplications ſucceſſives d'un nombre
" par lui-même d'autre limite qu'un infini auquel
" il eſt impoſſible d'atteindre."

Sur l'Inſtruction publique, par M. CONDORCET.

NOTE [N] page 222.

IT may be proper to remark, that under the title of *Oeconomiſts*, I comprehend not merely the diſ-

ciples of *Queſnai*, but all thoſe writers in France, who about the ſame time with him, began to ſpeculate about the natural order of political ſocieties; or, in other words, about that order which a political ſociety would of itſelf gradually aſſume, on the ſuppoſition that law had no other object than to protect completely the natural rights of individuals, and left every man at liberty to purſue his own intereſt in his own way, as long as he abſtained from violating the rights of others. The connexion between this natural order and the imrovement of mankind, has been more inſiſted on by the biographers of Turgot than by any other authors; and the imperfect hints which they have given of the views of that truly great man upon this important ſubject, leave us much room to regret that he had not leiſure to execute a work, which he appears to have long meditated, on the principles of moral and political philoſophy.

Vie de M. TURGOT. *Partie* ii. p. 53.

It is merely for want of a more convenient expreſſion that I have diſtinguiſhed theſe different writers by the title of *Oeconomiſts*. It is in this extenſive ſenſe that the word is commonly underſtood in this country; but I am ſenſible that it is ſomewhat ambiguous, and that, without the explanation which I have given, ſome of my obſervations might have been ſuppoſed to imply a higher admiration than I really entertain of the writings of M. Queſnai, and of the affected phraſeology employed by his ſect.

The connexion between M. Turgot and M. Queſnai, and the coincidence of their opinions about the moſt eſſential principles of legiſlation, will I hope juſtify me for ranking the former with the Oeconomiſts; although his views ſeem to have been much more enlarged than thoſe of his cotemporaries; and although he expreſsly diſclaimed an explicit acquieſcence in the opinions of any particular ſect.

" M. Turgot etudia la doctrine de M. Gour-
" nay et de M. Queſnai, en profita, ſe la rendit pro-

" pre ; et la combinant avec la connoiſſance qu'il
" avoit du Droit, and avec les grandes vues de le-
" giſlation ci vile and criminelle qui avoit occupe
" ſa tete and intereſſe ſon cœur parvint a en for-
" mer ſurle gouvernement des nations un corps de
" principes a lui, embraſſant les deux autres, et
" pus complete encore."

Memoires ſur la Vie et les Ouvrages de M. TURGOT, *par M.* DUPONT p. 40, 41.

" Il a paſſe pour avoir eſte attache a pluſieurs ſec-
" tes, ou a pluſieurs ſocietes qu'on appelait ainſi ;
" and les amis qu'il avait dans ces ſocietes diverſes
" lui reprochaient ſans ceſſe de n'etre pas de leur
" avis ; and ſans ceſſe il leur reprochait de ſon co-
" te de vouloir faire communaute d'opinions, and
" de ſe rendre ſolidaires les uns pour les autres. Il
" c royait cette marche propre a retarderles progres
" menes de leurs decouvertes." *Ibid* p. 41, 42.

NOTE [O,], page 297.

THE foregoing obſervations on the ſtate of the mind in ſleep, and on the phenomena of dreaming were written as far back as the year 1772 ; and were read (nearly in the form in which they are now publiſhed) in the year 1773, in a private literary ociety in this univerſity. A conſiderable number of years afterwards, at a time when I was occupied with very different purſuits, I happened, in turning over an old volume of the Scots Magazine, (the volume for the year 1749,) to meet with a ſhort eſſay on the ſame ſubject, which ſurpriſed me by its very ſtriking coincidence with ſome ideas which had formerly occurred to me. I have reaſon to believe that this eſſay is very little known, as I have never ſeen it referred to by any of the numerous writers who have ſince treated of the human mind ; nor have even heard it once mentioned in converſation. I had ſome time ago the ſatisfaction to learn very accidentally, that the author was Mr. Thomas Melville, a gentleman who died at the ear-

ly age of 27; and whoſe ingenious obſervations on light and colours (publiſhed in the Eſſays of the Edinburgh Philoſophical Society) are well known over Europe.

The paſſages which coincide the moſt remarkably with the doctrine I have ſtated, are the following. I quote the firſt with particular pleaſure, on account of the ſupport which it gives to an opinion which I formerly propoſed in the eſſay on conception and on which I have the misfortune to differ from ſome of my friends.

"When I am walking up the High-ſtreet of Edin-
"burgh, the objects which ſtrike my eyes and ears
"give me an idea of their preſence; and this idea
"is lively, full, and permanent, as ariſing from the
"continued operation of light and ſound on the or-
"gans of ſenſe.

"Again, when I am abſent from Edinburg, but
"*conceiving* or *imagining* myſelf to walk up the
"High-ſtreet, in relating, perhaps, what befel me
"on such an occaſion, I have likewiſe in my mind
"an idea of what is uſually ſeen and heard in the
"High-ſtreet: and this idea of imagination is en-
"tirely ſimilar to thoſe of ſenſation though not ſo
"ſtrong and durable.

"In this laſt inſtance, while the imagination laſts,
"be it ever ſo ſhort, it is evident that I *think* my-
"ſelf in the ſtreet of Edinburgh, as truly as when
"I *dream* I am there, or even as when I *ſee* and *feel*
"I am there. It is true, we cannot ſo well apply
"the word *belief* in this caſe; becauſe the *percep-*
"*tion* is not clear or ſteady, being ever diſturbed,
"and ſoon diſſipated, by the ſuperior ſtrength of in-
"truding *ſenſation*: yet nothing can be more abſurd
"than to ſay, that a man may, in the ſame indi-
"vidual inſtant, *believe* he is in one place, and *imag-*
"*ine* he is in another. No man can demonſtrate
"that the objects of ſenſe exiſt without him; we are
"conſcious of nothing but our own ſenſations: how

" ever, by the uniformity, regularity, conſiſtency, " and ſteadineſs of the impreſſion, we are led to be- " lieve, that they have a real and durable cauſe " without us; and we obſerve not any thing which " contradicts this opinion. But the ideas of ima- " gination, being tranſient and fleeting, can beget " no ſuch opinion, or habitual belief; though there " is as much perceived in this caſe, as in the former, " namely, an idea of the object within the mind. " It will be eaſily underſtood, that all this is intend- " ed to obviate an objection that might be brought " againſt the ſimilarity of dreaming and imagina- " tion, from our believing in ſleep that all is real. " But there is one fact, that plainly ſets them both " on a parallel, that in ſleep we often recollect " that the ſcenes which we behold are a mere dream " in the ſame manner as a perſon awake is habitual- " ly convinced that the repreſentations of his ima- " gination are fictitious."

——" In this eſſay we make no inquiry into the " ſtate of the body in ſleep."

——" If the operations of the mind in ſleep can " be fairly deduced from the ſame cauſes as its ope- " rations when awake, we are certainly advanced " one conſiderable ſtep, though the cauſes of theſe " latter ſhould be ſtill unknown. The doctrine of " gravitation, which is the moſt wonderful and ex- " tenſive diſcovery in the whole compaſs of human " ſcience, leaves the deſcent of heavy bodies as great " a myſtery as ever. In philoſophy, as in geome- " try, the whole art of inveſtigation lies in redu- " cing things that are difficult, intricate, and remote " to what is ſimpler and eaſier of acceſs, by purſu- " ing and extending the analogies of nature."

On looking over the ſame eſſay, I find an obſer- vation, which I ſtated as my own, in page 137 of this work. " The mere imagination of a tender " ſcene in a romance, or drama, will draw tears " from the eyes of thoſe who know very very well " when they recollect themſelves, that the whole is

"fictitious. In the mean time they muſt conceive "it is real; and from this ſuppoſed reality ariſes all "its influence on the human mind."

NOTE [P] page 299.

Dr. REID has, with great truth, obſerved, that Des Cartes' reaſonings againſt the exiſtence of the ſecondary qualities of matter, owe all their plauſibility to the ambiguity of words.—When he affirms for example, that the ſmell of a roſe is not in the flower but in the mind, his propoſition amounts only to this, that the roſe is not conſcious of the ſenſation of ſmell: but it does not follow from Des Cartes' reaſonings, that there is no quality in the roſe which excites the ſenſation of ſmell in the mind;—which is all that any perſon means when he ſpeaks of the ſmell of that flower. For the word *ſmell*, like the names of all ſecondary qualities, ſignifies two things, a ſenſation in the mind, and the unknown quality which fits it to excite that ſenſation.* The ſame remark applies to that proceſs of reaſoning by which Des Cartes attempts to prove that there is no heat in the fire.

All this, I think, will be readily allowed with reſpect to ſmells and taſte, and alſo with reſpect to heat and cold; concerning which I agree with Dr. Reid in thinking that Des Carte's doctrine, when cleared of that air of myſtery, which it derives from the ambiguity of words, differs very little, if at all, from the commonly received notions. But the caſe ſeems to me to be different with reſpect to *colours*, of the nature of which the vulger are apt to form a

* Some judicious remarks on this ambiguity in the names of ſecondary qualities are made by Malebranche:

"It is only (ſays he) ſince the time of Des Cartes, that thoſe confuſed "and indeterminate queſtions, whether fire is hot, graſs green, and ſugar "ſweet, philoſophers are in uſe to anſwer by diſtinguiſhing the equivocal "meaning of the words expreſſing ſenſible qualities. If by heat, cold, "and ſavour, you underſtand ſuch and ſuch a diſpoſition of parts, or ſome "unknown motion of inſenſible particles, then fire is hot, graſs green, and "ſugar ſweet. But if by heat and other qualities you underſtand what "I feel by fire, what I ſee in graſs, &c. fire is not hot, nor graſs green; "for the heat I feel, and the colours I ſee, are only in the ſoul."

very confuſed conception, which the philoſophy of Des Cartes has a tendency to correct. Dr. Reid has juſtly diſtinguiſhed the *quality* of colour from what he calls the *appearance* of colour, which laſt can only exiſt in a mind.* Now I am diſpoſed to believe, that when the vulgar ſpeak of colour, they commonly mean the *appearance* of colour; or rather they aſſociate the appearance and its cauſe ſo intimately together, that they find it impoſſible to think of them ſeparately.† the ſenſation of colour never forms one ſimple object of attention to the mind like thoſe of ſmell and taſte; but every time we are conſcious of it, we perceive at the ſame time extenſion and figure. Hence it is, that we find it impoſſible to conceive colour without extenſion, though certainly there is no more neceſſary connexion between them, than between extenſion and ſmell.

From this habit of aſſociating the two together, we are led alſo to aſſign them the ſame place, and to conceive the different colours, or (to uſe Dr. Reid's language) the *appearance* of the different colours as ſomething ſpread over the ſurfaces of bodies. I own that when we reflect on the ſubject with attention, we find this conception to be indiſtinct, and ſee

* Dr. Akenside, in one of his Notes on his Pleasures of Imagination, obſerves, that colours as apprehended by the mind do not exiſt in the body. By this qualification he plainly means to diſtinguiſh what Dr. Reid calls the appearance of colour, from colour conſidered as a quality of matter.

† Dr. Reid is of opinion, that the vulgar always mean to express by the word Colour, a quality, and not a ſenſation. "Colour (ſays he) differs "from other ſecondary qualities in this, that whereas the name of the "quality is ſometimes given to the ſenſation which indicates it, and is oc- "caſioned by it, we never, as far as I can judge, give the name of colour "to the ſenſation, but to the quality only." This queſtion it is of no conſequence for us to diſcuss at preſent, as Dr. Reid acknowledges in the following paſſage, that the ſenſation and quality are ſo intimately united together in the mind, that they ſeem to form only one ſimple object of thought. "When we think or ſpeak of any particular colour, however "ſimple the notion may ſeem to be, which is presented to the imagination, "it is really in ſome ſort compounded. It involves an unknown cauſe "and a known effect. The name of Colour belongs indeed to the cauſe "only, and not to the effect. But as the cauſe is unknown, we can form "no diſtinct conception of it, but by its relation to the known effect. And "therefore both go together in the imagination, and are ſo cloſely united "that they are miſtaken for one ſimple object of thought."

Inquiry into the Human Mind, chap. vi. ſect. 4.

clearly that the appearance of colour can exiſt only in a mind: but ſtill it is ſome confuſed notion of this ſort, which every man is diſpoſed to form, who has not been very familiarly converſant with philoſophical inquiries.—I find, at leaſt, that ſuch is the notion which moſt readily preſents itſelf to my own mind.

Nor is this reference of the ſenſation, or appearance of colour, to an external object, a fact altogether ſingular in our conſtitution. It is extremely analogous to the reference which we always make of the ſenſations of touch to thoſe parts of the body, where the exciting cauſes of the ſenſations exiſt.—If I ſtrike my hand againſt a hard object, I naturally ſay, that I feel pain in my hand. The philoſophical truth is, that I perceive the cauſe of pain to be applied to that part of my body. The ſenſation itſelf I cannot refer *in point of place* to the hand, without conceiving the ſoul to be ſpread over the body by diffuſion.

A ſtill more ſtriking analogy to the fact under our conſideration occurs in thoſe ſenſations of touch which we refer to a place *beyond the limits of the body;* as in the caſe of pain felt in an amputated limb.—

The very intimate combination to which the foregoing obſervations of the ſenſation of colour relate, is taken notice of by d'Alembert in the *Encyclopedie*, as one of the moſt curious phenomena of the human mind.

" Il eſt très evident que le mot *couleur* ne deſigne " aucune propriete du corps, mais ſeulement une " modification de no tre ame; que la blancheur, " par example, la rougeur, &c. n'exiſtent que dans " nous, et nullement dans le corps auſquels nous " les rapportons; neanmoins par une habitude priſe " bes notre enfance, c'eſt une choſe très ſinguliere " et digne de l'attention des metaphyſiciens, que ce " penchant que nous avons à rapporter à une ſub-

" ſtance materielle et diviſible, ce qui appartient
" reellement à une ſubſtance ſpirituelle et ſimple ;
" et rien n'eſt peut-être plus extraordinaire dans
" les operations de notre ame, que de la voir tranſ-
" porter hors d'elle-même et etendre, pour ainſi
" dire, ſes ſenſations ſur une ſubſtance à laquelle
" elles ne peuvent appartenir."

From the following paſſage in Condillacs's Traite des Senſations, it appears that the phenomenon here remarked by d'Alembert, was, in Condillac's opinion, the natural and obvious effect of an early and habitual aſſociation of ideas. I quote it with the greater pleaſure, that it contains the beſt and moſt ſtriking illuſtration which I have ſeen of the doctrine which I have been attempting to explain.

" On pourroit faire une ſuppoſition, ou l'odorat
" apprendroit à juger parfaitment des grandeurs,
" des figures, des ſituations et des diſtances. Il
" ſuffiroit d'un côte de ſoumettre les corpuſcules
" odoriferans aux loix de la dioptrique, et de l'au-
" tre, de conſtruire l'organe de l'odorat à peu pres
" ſur le modele de celui de la vûe ; enſorte que les
" rayons odoreferans, après s'être croſes à l'ouver-
" ture, frappraſſant ſur une membrane intériure au-
" tant de points diſtincts qu'il y en a ſur les ſurfaces
" d'où ils ſeroient réfléchis.

" En pareil cas, nous contracterions bientôt l'ha-
" bitude d'étendre le odeurs ſur les objects, et les
" philoſophes ne manqueroient pas de dire, que l'o-
" dorat n'a pas beſoin de leçons du toucher pour
" appercevoir des grandeurs et des ſigures."

Oeuvres de CONDILLAC.—*Edit. amſt.* vol. v. p. 225.

NOTE [Q], page 300.

" VERUM quidem eſt, quod hodierni muſici ſic
" loqui ſoleant (acutum in alto reputantes et grave
" in imo] quodque ex Græcis recentioribus non-
" nulli ſic aliquando (ſed raro) loquuti videantur ;
" apud quos ſenſum inolevit mos ſic loquendi.
" —Sed antiquior es Græci plane contrarium (grave

" reputantes in alto et acutum in imo.) Quod etiam ad Boethii tempora continuatum est, qui in " schematismis, suis, grave semper in summo point, " et acutum in imo."

DAVID GREGORY *in Præfat. ad edit. suam Euclid. Op. Oxon.* 1703.

The association to which, in modern times, we are habituated from our infancy, between the ideas of acute and high, and between those of grave and low, is accounted for by Dr. Smith in his harmonics, from the formation of the voice in singing, which Aristides Quintilianus thus describes, Γινεται δε ὁ μεν βαρυτης, κατωθεν αναφερομενη τῳ πνευματος, ἡ δ' οξυτης επιπολης προιεμενη &c. Et quidem gravitas fit, si ex inferiore " parte (gutturis) spiritus sursum feratur, acumen " vero, si per summam partem prorumpat;" (as Meibomius translates it in his notes.)

See SMITH's *Harmonics*, p. 3.

Dr. Beattie, in his ingenious Essay on Poetry and Music, says, it is probable that the deepest or gravest sound was called *summa* by the Romans, and the shrillest or acutest *ima;* and he conjectures, that " this might have been owing to the construction of " their instruments; the string that sounded the for- " mer being perhaps highest in place, and that which " sounded the latter lowest." If this conjecture could be verified, it would afford a proof from the fact, how liable the mind is to be influenced in this respect by casual combinations.

NOTE [R] page 338.

THE difference between the effects of *association* and of *imagination*, (in the sense in which I employ these words) in heightening the pleasure or the pain produced on the mind by external objects, will appear from the following remarks.

1. In so far as the association of ideas operates in heightening pleasure or pain, the mind is passive: and accordingly, where such associations are a source of inconvenience, they are seldom to be cured by

an effort of our volition, or even by reasoning; but by the gradual formation of contrary associations. Imagination is an active exertion of the mind; and although it may often be difficult to restrain it, it is plainly distinguishable in theory from the associations now mentioned.

2. In every case in which the association of ideas operates, it is implied that some pleasure or pain is recalled which was felt by the mind before. I visit, for example, a scene where I have been once happy; and the sight of it affects me, on that account, with a degree of pleasure, which I should not have received from any other scene equally beautiful. I shall not inquire, whether, in such cases, the associated pleasure arises *immediately* upon the sight of the object, and without the intervention of any train of thought; or whether it is produced by the recollection and conception of former occurrences which the perception recals. On neither supposition does it imply the exercise of that creative power of the mind to which we have given the name of imagination. It is true, that, commonly, on such occasions imagination is busy; and our pleasure is much heightened by the colouring which she gives to the objects of memory. But the difference between the effects which arise from the operation of this faculty, and those which result from association, is not on that account, the less real.

The influence of imagination on happiness is chiefly felt by cultivated minds. That of association extends to all ranks of men, and furnishes the chief instrument of education; insomuch that whoever has the regulation of the associations of another from early infancy, is to a great degree, the arbiter of his happiness or misery.

Some very ingenious writers have employed the word association in so extensive a sense, as to comprehend, not only imagination, but all the other faculties of the mind. Wherever the pleasing or the painful effect of an object does not depend solely on

the object itself, but arises either wholly or in part from some mental operation to which the perception of it gives rise, the effect is referred to association. And undoubtedly, this language may be employed with propriety, if the word association be applied to all the ideas and feelings which may arise in the mind, in consequence of the exercise which the sight of the object may give to the imagination, to the reasoning powers, and to the other principles of our nature. But in this work and particularly in the second part of chap. v. I employ the word association in a much more limited sense; to express the effect which an object derives from ideas, or from feelings which it does not necessarily suggest, but which it uniformly recals to the mind, in consequence of early and long continued habits.

NOTE [S] page 352.

THE following passage from Malebranche will be a sufficient specimen of the common theories with respect to memory.

"In order to give an explanation of memory, it "should be called to mind, that all our different "perceptions are affixed to the changes which hap- "pen to the fibres of the principal parts of the brain, "wherein the soul particularly resides.

"This supposition being laid down, the nature of "the memory is explained; for as the branches of "a tree, which have continued for some time bent "after a particular manner, preserve a readiness and "facility of being bent afresh in the same manner; "so the fibres of the brain, having once received "certain impressions from the current of the ani- "mal spirits, and from the action of the objects up- "on them, retain for a considerable time some fa- "cility of receiving the same dispositions. Now "the memory consists only in that promptness or fa- "cility; since a man thinks upon the same things, "whenever the brain receives the same impres- "sions."*

* Book ii. chap. 5. (Page 54 of Taylor's Transl.)

"The most considerable differences," says the Author in another passage, "that are found in one "and the same person, during his whole life, are in "his infancy, in his maturity, and in his old age. "The fibres in the brain in a man's childhood are "soft, flexible, and delicate; a riper age dries, har-"dens, and corroborates them; but in old age they "grow altogether inflexible, gross, and intermixed "with superfluous humours, which the faint and "languishing heat of that age is no longer able to "disperse: for as we see that the fibres which com-"pose the flesh harden by time, and that the flesh "of a young partridge is without dispute more ten-"der than that of an old one, so the fibres of the "brain of a child, or a young person, must be more "soft and delicate than those of persons more ad-"vanced in years.

"We shall understand the ground and the occa-"sion of these changes, if we consider that the fibres "are continually agitated by the animal spirits "which whirl about them in many different man-"ners: for as the winds parch and dry the earth "by their blowing upon it, so the animal spirits, by "their perpetual agitation, render by degrees the "greatest part of the fibres of a man's brain more "dry, more close, and solid; so that persons more "striken in age must necessarily have them almost "always more inflexible than those of a lesser stand-"ing. And as for those of the same age, drunkards "who for many years together have drank to excess "either wine, or other such intoxicating liquors, "must needs have them more solid and more inflex-"ible than those who have abstained from the use "of such kind of liquors all their lives."*

NOTE [T] page 407.

"THOUGH Sir Isaac's memory was much de-"cayed in the last years of his life, I found he per-"fectly understood his own writings, contrary to

* Book ii. chap. 6. (Page 56 of Taylor's Transl.)

"what I had frequently heard in discourse from "many persons. This opinion of theirs might arise "perhaps, from his not being always ready at speak- "ing on these subjects, when it might be expected "he should. But as to this it may be observed, that "great geniuses are frequently liable to be absent, "not only in relation to common life, but with re- "gard to some of the parts of science they are the "best informed of. Inventors seem to treasure up "in their minds what they have found out, after "another manner than those do the same things, "who have not this inventive faculty. The former "when they have occasion to produce their know- "ledge, are, in some measure, obliged immediately, "to investigate part of what they want. For this "they are not equally fit at all times; so it has of- "ten happened, that such as retain things chiefly "by a very strong memory, have appeared off-hand "more expert than the discoverers themselves."

Preface to PEMBERTON'S *View of* NEWTON'S *Philosophy.*

NOTE [U] page 444.

"GOING over the theory of virtue in one's "thoughts, talking well, and drawing fine pictures "of it; this is so far from necessarily or certainly con- "ducing to form a habit of it, in him who thus em- "ploys himself, that it may harden the mind in a "contrary course, and render it gradually more in- "sensible; *i. e.* form a habit of insensibility to all "moral obligations. For, from our very faculty of "habits, passive impressions, by being repeat- "ed, grow weaker. Thoughts, by often passing "through the mind, are felt less sensibly: being "accustomed to danger, begets intrepidity, *i. e.* les- "sens fear; to distress, lessens the passion of pity; "to instances of others mortality, lessens the sensible "apprehension of our own. And from these two "observations together that practical habits are "formed and strengthened by repeated acts, and "that passive impressions grow weaker by being re-

"peated upon us, it must follow, that active habits "may be gradually forming and strengthening by a "course of acting upon such and such motives and "excitements, whilst these motives and excitements "themselves are, by proportionable degrees, grow- "ing less sensible, *i. e.* are continually less and less "sensibly felt, even as the active habits strengthen. "And experience confirms this: for active princi- "ples, at the very time they are less lively in per- "ception than they were, are found to be, somehow "wrought more thoroughly into the temper and "character, and become more effectual in influen- "cing our practice. The three things just mentioned "may afford instances of it. Perception of danger "is a natural excitement of passive fear and active "caution; and by being inured to danger, habits of "the latter are gradually wrought, at the same time "that the former gradually lessens. Perception of "distress in others is a natural excitement passively "to pity, and actively to relieve it; but let a man set "himself to attend to, inquire out, and relieve dis- "tressed persons, and he cannot but grow less and "less sensibly affected with the various miseries of "life with which he must become acquainted; when "yet, at the same time, benevolence, considered "not as a passion, but as a practical principle of ac- "tion, will strengthen; and whilst he passively com- "passionates the distressed less, he will acquire a "greater aptitude actively to assist and befriend "them. So also, at the same time that the daily in- "stances of men's dying around us, give us daily a "less sensible passive feeling or apprehension of our "own mortality, such instances greatly contribute "to the strengthening a practical regard to it in se- "rious men; *i. e.* to forming a habit of acting with "a constant view to it."

BUTLER'S *Analogy*, page 122. 3d edit.

THE END.

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